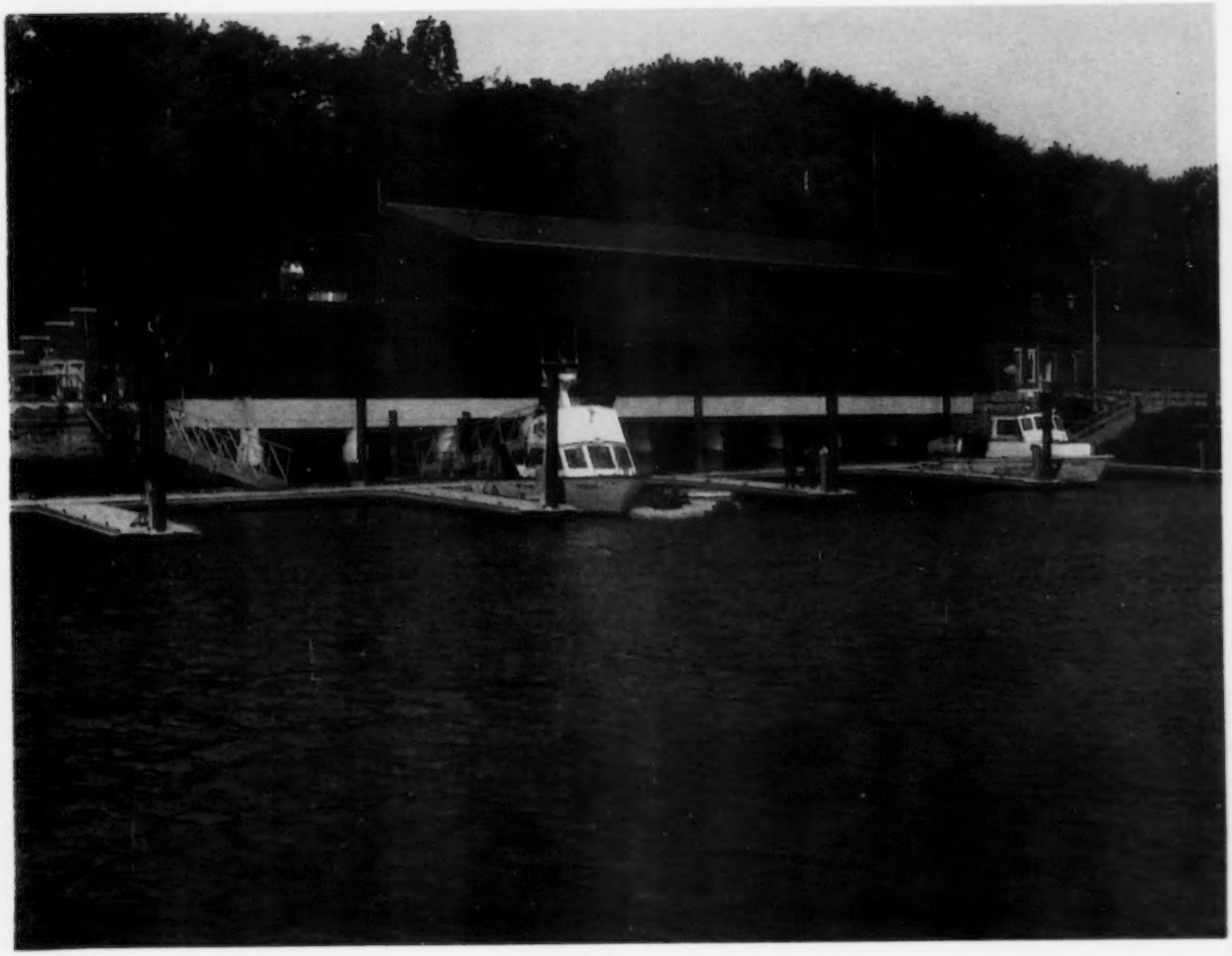
ON SCENE

U.S. Department of Transportation

United States Coast Guard



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CHIEF, OFFICE OF NAVIGATION SAFETY
AND WATERWAY SERVICES
UNITED STATES COAST GUARD
WASHINGTON, D.C. 20593-0001

August 4, 1993

Dear "On Scene" Readers,

The value of actively managed training cannot be overemphasized. Well trained personnel complete their jobs more efficiently, perform better in stressful situations, and are less likely to be involved in an accident.

When you get underway, take the time to hone your navigation, boat handling, airmanship, damage control, and other operational skills whenever possible. Remember, there should be NO passengers, everyone can stand to improve.

When underway and training, also include the sorties and hours in the "OP TRA" employment category in the "Abstract of Operations." Recording operational training correctly documents the unit's commitment to improving both unit and personal professionalism.

Commands ensuring that underway time is dedicated to supporting the professional development of the crew, and increasing unit effectiveness, are delivering the best product to our customers in the most economic manner. That's good management!

Sincerely,

W. J. Ecker
Rear Admiral, U.S. Coast Guard

ON SCENE 2/93

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ON SCENE is a quarterly, authorized, special interest publication, produced by the Office of Navigation Safety and Waterway Services for members of the U.S. Coast Guard and the SAR community. Editorial content is not to be considered as authority for official action, nor as record material. Individual views and opinions expressed do not necessarily reflect those of the Department of Transportation or the U. S. Coast Guard.

Letters to the Editor

Dear On Scene Editor,

While the article "A Lesson Learned, The Hard Way" by CDR D. B. Perkins, G-NRS-1 was very good, it reminds me of a problem we have here in the Galveston Bay area. We, the CG Auxiliary, are very busy year round, the problem is that, most of us in the Auxiliary do not have a chance to learn beyond what is in the Crew Qualification Manual. The OPS workshop we have every year consists of administrative procedures, mainly on how to fill the patrol orders.

We do have an Operations Manual. Most of the personnel in operations do not have a good way to keep up with changes that are promulgated between revisions, nor with SAR instructions issued at District level. On top of that, we do not have a mandatory program for training. For those of us who are very active and on patrol often, the problem is very minor. For those that participate in operations only once every two months then the problem is more serious.

I believe that with the exception of classified information, Operations and SAR policies should be transmitted to the Auxiliary personnel, as soon as possible when they are issued.

On the other side, while the JOOD or OOD makes the decisions, he or she acts based on the information pass by the on scene coxswain. If we, in the Auxiliary are not kept up to date on policies, we cannot perform as well as required.

Any worker that is not properly informed and trained, cannot perform with proficiency, in the private sector or in the Coast Guard. The Auxiliary needs to have a more formal program to maintain proficiency. Case in point is the result of the SAR case mentioned in the article.

A vessel, especially small pleasure craft, can not be towed from the stern except for maneuvering and only for a very short time. Vessels, in general, are not designed to move astern for more that a short maneuver.

When the crew in the assisted boat is not capable enough to secure a tow to their vessel, it is best to put one of the Coast Guard personnel (Auxiliary or Regular) on board to assist them.

Carlos A. Tissembaum
FSO-OP FT. 63, Div. VI 8th District.

CDR Perkins' response: Thank you for highlighting a problem shared by all members of the Coast Guard family, but that is especially acute with the Auxiliary. It certainly is difficult to maintain proficiency in towing if you only need to demonstrate it once every five years, which is what Chapter 4 of the Auxiliary Boat Crew Qualification Guide (Operator/Coxswain) stipulates. G-NAB intends to take another look at those requirements. I've had feedback from other readers that the article improperly blames the station OOD for the outcome of that SAR case. Let me take this opportunity to make perfectly clear that the OOD did nothing wrong. At the same time, I hope you all picked up on the fact that sometimes there are viable options, besides towing, when assisting a disabled boater. o/s

Mr. Marsh,
Dear ~~On Scene Editor,~~

The Directory for *On Scene* Magazine in the 1/93 issue is a very good idea. It also prompted me to offer a suggestion: Since the Coast Guard is coming on line with CD-ROM on field computers, why not issue a yearly CD-ROM with the text files from your magazine. If you included a "hypertext" type search engine with each disk, then units would have an excellent SAR reference library, as well as a useful training aid for their personnel.

You could, for instance, search on "SARMIS" and end up with a list of all articles that applied. With "hypertext" you cold look up "CSP" simply by pressing go or clicking a mouse on the highlighted text. By the way a SAR dictionary might nicely integrate into such a system as well.

I'd suggest this for an idea express award but have no idea how to measure the cost. Hope you can use the idea.

QM1 Denner
USCGC CITRUS

Editor's Note: first of all, I'm the editor of On Scene, not , LT Marsh. LT Marsh is at the R&D Center and has nothing to do with putting the directory on CD-ROM. Second, I am not a computer "weenie" and have no desire to be one. However I have forwarded this letter to our recycle file for review. Seriously, I don't think putting On Scene on CD-ROM is feasible, given budget constraints. *o/s*

Dear On Scene Editor,

That was an interesting account in the last issue of the small motor boat which ran out of gas, the efforts of the Auxiliary vessel to assist, and the eventual swamping and sinking.The duty coxswain was faulted for having the Auxiliary vessel tow the boat to a safe anchorage. But note, the operator of the boat was described as "unfamiliar with the operation of any kind of vessel" and that he had only 2 PFDs for 3 POB. I certainly would not have provided gas under those circumstances. There was too much risk that someone might drown. I would have done as the coxswain did, I also would have urged that the operator take an Auxiliary boating course before venturing out on the water again. (Just imagine what would have happened if the CG had provided gas, and a tragedy had ensued.) I was also puzzled as to why no mention was made of any action against the operator whose wake swamped the boat under tow. Doesn't he face both civil and criminal penalties for a witnessed violation of the Federal Boating Safety Act? ("No person may use a vessel...in a negligent manner so as to endanger the life, limb, or property of any person...etc.")

Obviously, a lack of seamanship on the part of the operators of all three vessels contributed to the sinking. When are we going to require licensing of operators?

Sincerly,
CAPTAIN J. L. Bender USCG (Ret.)
Bethesda, MD

CDR Perkins response: I agree that this case had factors which might have made selling gas to the disabled boater imprudent. I brought this up because sometimes it is a viable option, but is overlooked by our field personnel. Keeping the pointy end in front is ALWAYS a good idea. As this case shows, it doesn't take much of a sea to swamp a boat being towed backwards. Whether or not boat operators should be licensed is properly a decision of our elected representatives.

"READY FOR HEAVY WEATHER"

By: CWO W. J. HAM , CO National Motor Lifeboat School

That phrase has been heard by every station that has a Motor Lifeboat (MLB) or Surf Rescue Boat (SRB). But what does it mean in terms of the boat's ability to carry out it's intended mission? The following explains this and gives the reasons that the standardization team sometimes issues a MLB or SRB a "NOT READY FOR HEAVY WEATHER" (RFHW) report card.

First and foremost, the 44' MLB and 30' SRB were built for a specific purpose, to carry out missions in rough weather and surf operations. The 44' MLB replaced the 36' MLB, which was the heavy weather workhorse of the Coast Guard during it's time. Over the years (30+ to be s9emi-precise), these boats have taken a back seat to newer technology. Faster and better riding boats (41' UTBs and some nonstandard boats) are used for most operations. Additionally the increase in the WPB fleet has taken some of the offshore heavy weather burden off the MLB's shoulders. All this sounds like the MLB no longer has a mission. Right? **WRONG!** There is still a need for small boats that have operational capability in heavy weather and especially in surf operations. The persons whose lives have been saved by MLBs and SRBs can certainly attest to the need. The need exists in all surf operations, where other platforms cannot perform with any degree of safety, where WPBs and other vessels cannot operate, due to draft constraints or when another resource is not available. So you can see there is a need. You may say, "Well we rarely need the boat except in the winter and only for the infrequent heavy weather SAR case." Yes, that may be true. However, when it is needed, the vessel, person(s) requiring assistance, and your boat crew that has to go out in the storm of the decade, all depend upon the MLB being READY FOR HEAVY WEATHER!

What's the criteria for establishing this status? First, the MLB or SRB must be in top notch operating and mechanical condition. The MLB Standardization Team uses a full power trial for the boat operation side of the determination. The reasons for this are obvious. Or are they? "So what if my boat can't come up to full power and overheats at 2800 RPM? I never run at full throttle for any period of time anyway, and if the engines overheat I just throttle back to keep the temperature down." Sound familiar? Well maybe you don't run at full RPMs. But lets say you've got a 75 - foot, 120 ton dragger on the end of your towline, your trying to make the entrance against 40 knots of wind, a bull ebb and mountains of water. You think maybe you might need a tad more power than usual? And let's hope those rock crushers don't melt down before you make it to the entrance. That's just on the engine side of the house... **All** the systems need to be up to the same level of operating condition as the engines. The easy solution to insuring that everything is ready to go is PMS, PMS, PMS, PMS. Get the drift?

The second area for determination of RFHW status is watertight integrity. You know, those pain-in-the-rear doors and hatches that never close right and are a bear to open! Or maybe those pesky ancient huck bolts that leak water 'cause the RTV and duct tape keeps washing away. Again, the very worst time to find out that the forward watertight hatch, which you've been meaning to fix, not only lets in that warm sunshine, "so's you can read a book from the sunlight streaming through the gasket", it also lets cupfuls' of nasty Mr. Seawater in, during that "Storm of the Decade", that "Once in a Lifetime SAR Case!" The fix... need I say the "P" word again?

Last, but not least, is boat stowage. I recently read a report on a Royal National Lifeboat Institute, Wavney Class Lifeboat, (the British version of our 44' MLB), that rolled twice on the face of a 30 foot wave. Part of the report concerned one of the crewmen that was down below in the mess deck space when the boat rolled. Several items, including a teapot (perhaps he was making tea?), came adrift and caused him considerable pain and injury. This incident should demonstrate the need for keeping things in their place and well secured, and perhaps the forgoing of tea time in certain conditions.

(Continued on P. 38)

A Hoax Can Leave "Fingerprints"

By: LCDR W. D. Lee, G-NRS-1

On May 7, Station St. Clair Shores received a radio call reporting a cardiac arrest in Anchor Bay. This case appeared to be very similar to a hoax which had occurred the previous night. Two SAR rescue unit's (SRU), with portable radio direction finder equipment, and two HH-65As "Dolphins" from AIRSTA Detroit responded. Upon further investigation, a Dolphin was able to trace the transmission to a specific boat. It was the only pleasure craft in the area and appeared to be in no distress. Station St. Clair Shores personnel boarded the vessel. The boarding officer had both men do short transmissions on the radio, to compare with the recording of the hoax caller. The voices appeared to match up. The two men denied involvement in the reported radio call. Violations found by the boarding team included no FCC license. A full report was passed to the The Federal Communications Commission (FCC). CASE CLOSED.

The FCC has spectrum identification equipment available in cases like this; if you can record the hoax without squelch, they can compare it to that from a suspected radio and make a **"fingerprint"** match, usable in court. ***o/s***

Phony Distress Call Raises Fines and Punishment

Reprinted with permission from *BOAT/U.S. REPORTS* May 1993

Broadcasting a phony distress call that needlessly triggers a search and rescue response and endangers life and property is as serious an offense as can be committed over a radio, but under a new law now being enforced, it is also an extremely expensive offense.

The Federal Communications Commission (FCC) has successfully prosecuted an amateur radio operator from Northern Virginia under a new law that makes hoax distress calls a felony and provides for restitution to the U.S. Coast Guard for their expense in launching an unnecessary search.

Jorge Mestre, 50, of Fairfax, VA, has been ordered to pay the Coast Guard $50,000 after he pled guilty Feb. 12 to "knowingly and willfully" transmitting a phony distress signal. Mestre will be sentenced May 7 and could get up to six years in prison and fines of up to $250,000 in addition to permanently losing his FCC amateur radio license and disposing of his radio equipment.

According to the FCC, Mestre broadcast false distress calls over a single sideband, as well as Morse Code for "SOS," For two hours last Aug. 7, claiming that a vessel was sinking off Turks and Caicos Islands in the Caribbean and that six persons had abandoned ship and were in the water.

The Coast Guard responded with medium sized ships, two aircraft, and two helicopters in a vain search that cost U.S. taxpayers approximately $100,000. In addition, the island government sent out its own patrol craft and merchant vessels were also alerted.

Three other incidents of hoax calls, including one during a hurricane, are also believed to have come from Mestre.

The real tragedy of such calls goes beyond the cost to the government to the possibility that search and rescue personnel as well as equipment could be tied up on a phony call when they are needed in response to a real life-threatening emergency. Several years ago two New Bedford, MA, fishermen were lost at sea when a hoax distress call interfered with their real call for help.

The FCC now has sophisticated tracking equipment, basically powerful radio direction finders that can triangulate on a signal to pinpoint its origin. In addition, transmitters have their own "fingerprint" which FCC agents can identify. VHF marine channels are routinely monitored by FCC field offices who work closely with the Coast Guard.

"The signal from this case comes over loud and clear," said Rep. Gerry Studds (D-Mass.), Chairman of the House Merchant Marine and Fisheries

Committee who wrote the new law after the New Bedford incident, "If you needlessly endanger the lives of rescue teams, you'll pay dearly."

Two Coasties searching for "fingerprints", and their lifejackets in New York.
Archive photo, SKB in New York

PIW Recovery, Part II

By: ENS P. J. ST. JOHN, (G-NRS-2)

Continued from *ON SCENE* article 1/92: In 1987, the charter fishing boat BRONX QUEEN sank near Ambrose channel on its way into New York Harbor. In 1989, a USAir flight ran off the runway at New York's La Guardia Airport in an aborted take-off attempt. Every day, numerous passenger ferries, dinner cruise vessels, and large cruise ships ply the waters of our major (and some not so major) ports. Boston, New York, Philadelphia, Washington D.C., New Orleans, Los Angeles and San Francisco are just some of the areas where a major airport is adjacent to or very near the water. An important consideration for operational commanders must be "how to deal with relatively large numbers of persons in the water (PIW) after an incident?"

During October 1991 GRU New York along with the Search and Rescue Division (G-NRS) and UTB Systems Center researched and tested several ideas and devices for retrieving large numbers of individuals from the water. Some of ideas looked at were: A Removable Hinged Well Deck, Liferamp, Debarkation Net, Boarding Ladder, Swim Platform, and Rescue Platforms.

At this time in the test and evaluation stage, a two step process for retrieving a large number of PIW's has been agreed upon. The initial step is to deploy "rescue platforms" allowing individuals to get out of the water while awaiting recovery. In order to recover the PIW's a Rescue Ramp appears to be the best method. On May 27, 1993 two Prototype Rescue Ramps were tested by GRU New York. Eighteen Coasties jumped into the cold and murky water of New York Harbor in order to evaluate the prototypes. The ramps were tested in safe waters surrounding the boat docks, and in the swift current further out in the harbor.

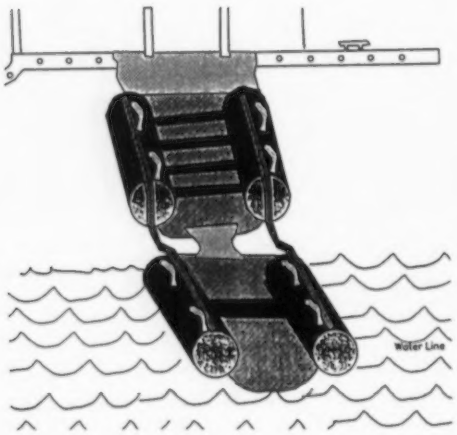


Figure (1)

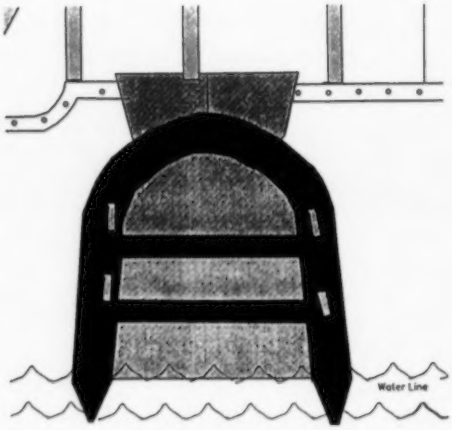


Figure (2)

The first rescue ramp tested, shown in Figure (1), utilizes a two step process, the PIW can swim onto the lower section of the ramp which is submerged in the water, allowing them to slide on it and then come to a standing position. After the PIW has stood up, they can climb the stairway to the deck of the boat relatively easily.

The second Ramp tested, shown in figure (2), uses a one step process for recovery, utilizing a partially submerged stairway for the PIW's to climb.

Each ramp was able to assist in the recovery of the eighteen PIW each having good and bad aspects in the design. Further modification and testing of the design is necessary to establish a production model

of the rescue ramp. A design using the lower submerged unit and a more stable stairway to the deck are requirements for the next testing phase.

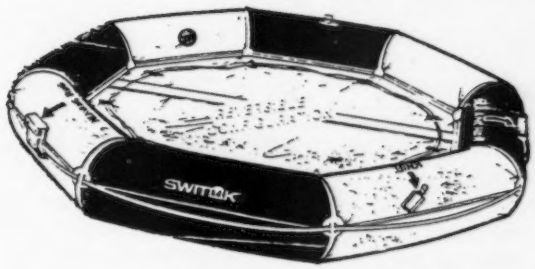
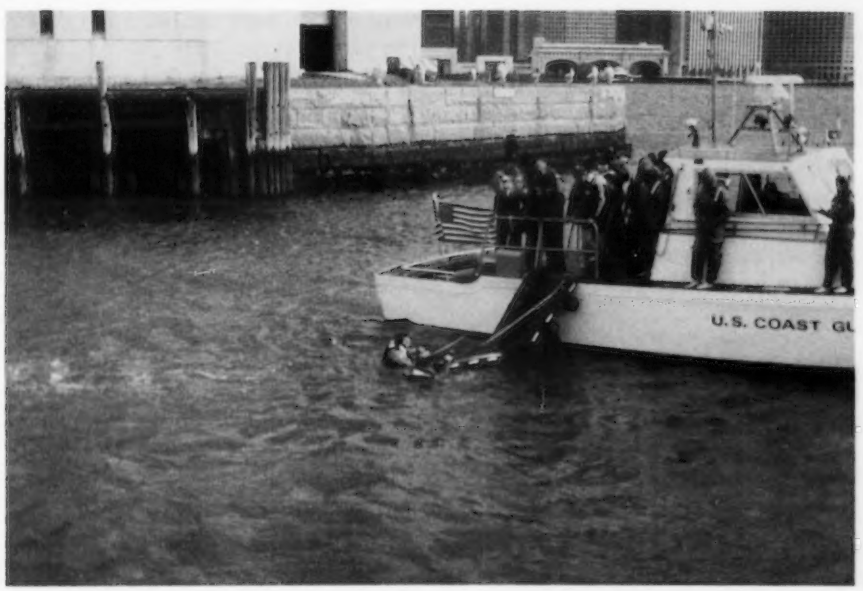


Figure (3)

Two Rescue Platforms, example shown in Figure (3), were also tested to determine, given a tired victim, which platform is easier for the PIW to climb onto.

To effectively rescue a large number of victims such as in a major airline or ferry accident, you may have to deploy 10–20 of the rescue platforms in various locations prior to picking up any individual survivors. If the relatively light, unballasted devices are scattered downwind of the PIW, they'd probably drift faster than the PIW could swim. If the devices get air–deployed, the helicopter rotor wash will definitely blow the devices around. With these problems solved the Coast Guard should be better prepared to handle a major maritime incident. *o/s*

Editor's note: *None of the above remarks, nor mention of the specific brand names above are to be taken as any positive or negative endorsement of any products mentioned. None of the above remarks are to be construed as a formal evaluation of any product.*



Testing of a Prototype Liferamp in New York Harbor

"Storm Of The Century"

By: ENS P. J. ST. JOHN, (G-NRS-2)

In the early morning hours of 13 March, a very strong cold front/low pressure system moved through the northern Gulf of Mexico with storm force winds gusting to hurricane force at frontal passage. Throughout 13 and 14 March, 5 to 8 Ft. seas and winds up to 25 knots caused extensive flooding along the west Coast of Florida extensive weather damage to the Georgia and South Carolina coasts. Significant loss of life and property resulted, in the maritime arena.

The Fifth district experienced more of the same, weather in the vicinity of two major cases off of Cape Fear reported as seas 20-30 Ft. and 50 knots winds gusting to 70 knots.

As the storm moved north it continued to ravage the coast moving into New England with tremendous force. Along the New England coast, the winds reached speeds of 75 knots. and tides surged to 6 Ft. above normal.

In the First District proactive SAR efforts, searching out vessels underway and recommending immediate return to port before the storm hit, proved successful. The number of SAR cases was kept at a minimum during the storm.

In the Eight District, from the 12th of May to the 15th there were 111 SAR cases, 64 vessels, 2 aircraft assisted , 33 lives saved, and one life lost. In the Seventh District the passage of the storm produced 115 SAR cases resulting in 158 lives saved, 7 lives lost and 12 people missing. Vessels lost at sea included 10 F/V, 2 Sailing Vessels and 2 Merchant Vessels. An estimated 100 vessels sank at moorings or in inland waterways.

The storm amplified the need for proper survival equipment for all boaters, even in the "normally" warmer climate of D7 and D8.

Registered 406 EPIRBS once again proved indispensable by providing vessel identity and point of contact for amplifying info on the vessels. Although EPIRBS provided excellent drift data, post SAR retrieval of EPIRBS was an important pursuit, to avoid masking new distress cases. Whenever possible, SRUs should recover EPIRBS after all survivors are accounted for and safe. In a situation highly reminiscent of hurricane Andrew, countless hours were spent by controllers sorting through alerts from previous cases to ensure new alerts were not lost in the shuffle. The potential for masking or confusing new distresses with old cases was very real in this scenario and was effectively handled by use of a dedicated EPIRB Plotter in the command center to closely monitor the situation.

A large number of the deaths caused by the storm were a result of exposure. As temperatures throughout the Seventh District plummeted to near or below freezing levels, exposure and hypothermia were brought to the forefront of attention in an area which is ordinarily spared many of the complications of cold weather SAR response. The ordinarily warm winds and waters of southern and western Florida lured numerous mariners into false complacency regarding the elements. These concerns have been forwarded to public affairs and marine safety offices as part of a public awareness campaign for the dangers of hypothermia.

None of the vessels lost had survival suits on board. The passage of this storm drove home the necessity for all mariners, civilian and military to be better outfitted for potentially foul and cold weather. One sailor from the ill-fated M/V FANTASTICO made his way into a lifeboat, only to be found deceased several hours later clad only in shorts, t-shirt, and lifejacket. Few of the vessels that sank in the storm had life rafts. Those vessels which did, had models which provided no protection from the elements.

Personal signaling devices might have facilitated the location of some storm victims. Persons in the water (PIW) in 30 FT. seas had extraordinarily low probability for detection. People stranded in mangroves and on uninhabited keys could also have benefited from mirrors.

Current models of cellular phones remain extremely susceptible to interference, particularly during severe weather. Multiple means of communications continues to provide the best assurance for safety at sea. S/V CHARLIE'S CRAB placed a cellular

phone call to 911 at 130435R, just as the front passed through the west Palm Beach area. This call was momentarily picked up and logged on the cellular phone carrier's computer. The Lantana Police 911 Operator's records verify receipt of an incoming call from a cellular phone at that time but show it immediately disconnected with no info or identification received. The failure to connect with the correct agency serves to illustrate the shortcomings of cellular phones as a primary means of maritime communications.

Some speculate that VHF-FM comms were not possible due to the S/V's dismasting. Would a backup handheld VHF-FM transceiver have helped? We don't know. S/V CHARLIE'S CRAB and its 4 POBs were never found.

During this storm some hoax cases unnecessarily endangered lives when searches were conducted in the heavy weather.

A few of the significant SAR cases are detailed below:

DISTRICT EIGHT

This F/V CAPT B II was disabled and endangered by the rough weather 35 NM SW of Grand Isle, LA. All four persons on board were hoisted by an Air Station New Orleans HH-65A, including one injured crewman who had been hit by flying glass when a pilothouse window blew out. The first hoist attempt had to be aborted when the basket became fouled on the wildly moving vessel, parting the cable at the hoist. The person in the basket washed into the water, another crewmember grabbed the trail line, retrieving his shipmate from the water. A second Air Station New Orleans helo diverted and successfully rescued the people.

D8 (opc) received a report that ENSCO NAVIGATOR had become disabled and adrift. An Air Station Clearwater C-130 diverted to locate the 185 foot offshore supply vessel and assess the situation. Once the C-130 located the vessel and confirmed that it was disabled, CGC DEPENDABLE was diverted to assist. CGC DEPENDABLE effected repairs to the vessel, and following a routine check of the crew, it was learned that the master was wanted in Morgan City, Louisiana on an outstanding felony warrant. CGC DEPENDABLE arrested the master, and delivered him to Galveston where he was turned over to local authorities for extradition to Louisiana.

A commercial tug hired by the owners of the ENSCO NAVIGATOR took the vessel in tow, and headed into Port O'Connor, TX.

The F/V ST. VINCENT IV was taking on water, 130 NM south of Southwest Pass, LA. A C-130 and a HU-25A dropped a total of three pumps. A large tankship, the SPRAY, diverted to assist, remaining on scene until the pumps were dropped, to provide communications and evacuate the crew if necessary. The F/V ST. VINCENT was escorted back to Dulac, LA by a sister ship.

The F/V WARREN G was foundering and taking on water with three persons on board (POB) 90 NM south of Mobile, AL. A HH-60J from ATC Mobile hoisted all of the POBs in 45 kt. winds and 20 Ft. seas. All POB had sustained minor injuries due to the weather. The vessel was left awash, later towed in by another company vessel.

160700S The 45 Ft. M/V MONIQUE (HO) with 02 POBs, on a voyage from Mobile, AL to Isla Mujeres, MX, remained unlocated. The M/V MONIQUE was last heard from approximately 289 miles north of the Yucatan channel on Friday morning. They had slowed to 5 knots due to the weather. The 45 Ft. wood hulled Hatteras motor yacht, converted to a cargo vessel, was expected to make port by Sunday. Two trackline searches were conducted by HU-25s from ATC Mobile on 15 March with negative results and a Falcon from ATC Mobile conducted a trackline search to Isla Mujeres. A HU-25A remained on deck in Cancun, MX, and another trackline search was planned the next morning.

At 150802 STA Panama City received a call from the Carabelle Marine Patrol reporting an explosion and fire aboard the F/V DESIREE, and that 03 persons were in the water. A UTB from STA Panama City was dispatched along with a HH-3F from ATC Mobile. In addition, the Florida Marine Patrol (FMP) responded with a surface asset and a Helicopter. Shortly after the initial report, an Air Force F-15 located the three PIW. The F/V JONES PRIDE, which had also responded to the distress, was the first surface vessel to arrive on scene, and recovered all three PIW. The FMP vessel, MELVIN DAVIS, transported all three persons to Tallahassee Regional Medical Center where one man was treated for a broken right ankle. The other two persons from the F/ V DESIREE were examined and released. The cause of the explosion is believed to be a propane tank that was

aboard the vessel.

At 150839S STA Venice received a call from the M/V SHARON DIAR reporting they overheard a "MAYDAY" call from an unknown vessel somewhere south of Marsh Island, LA. Group New Orleans eventually established communication with the F/V MISS RACHAEL, which confirmed it was taking on water 108 NM SW of New Orleans, and unable to keep up with the flooding. Also, the F/V BILLY J and the M/V CHARLIE G responded to the "MAYDAY" and were currently on scene with the distressed vessel. A HU-25C from ATC Mobile and HH-65A from Air Station New Orleans were launched to deliver dewatering pumps. The helos arrived on scene and delivered the F/V MISS RACHAEL two pumps. The F/V MISS RACHAEL began dewatering itself, and was taken in tow by her sister ship the F/V BILLY J. At 1215S it was reported that both pumps failed and the vessel was again in danger of sinking. A HH-65A from Air Station New Orleans delivered the vessel two additional pumps, and the M/V EVANGELINE pulled alongside and attempted to dewater the vessel with her installed air pumps. The F/V MISS RACHAEL was successfully dewatered, and was again taken in tow by the F/V BILLY J. At 1455S it was reported that all four pumps failed due to being clogged with debris from the vessel's bilge. By this time the weather had begun to deteriorate, and all POBs were removed and taken aboard the F/V BILLY J. The F/V MISS RACHAEL was left adrift, and the POB transported safely to shore.

At 151255S the District Command Center received a call from Tyndall AFB reporting one of their F-15 fighter aircraft had just crashed approximately 90 NM of Clearwater, FL. The Command Center requested a HH-3F from Air Station Clearwater to assist in the rescue. Two HH-3Fs were diverted, the first one arriving on scene within 45 minutes of the initial call. A HH-60J from ATC Mobile was also diverted. CG 1486 arrived on scene, located the pilot in his raft, hoisted him aboard, and transported him to Tyndall AFB. The CG 1431 arrived on scene shortly thereafter and recovered some of the debris from the downed aircraft.

At 15160S Group Galveston reported the F/V DIDA had just moored in Galveston TX, and notified the group that they had a man overboard proximately 75 NM south of Marsh Island, LA. Apparently, the missing crewman was last seen being swept overboard by a wave around 2200S on Friday , March 12, 1993. This was at the height of the rough weather created by the storm front which moved through the Gulf. The vessel claimed that they were disabled and without radio communications, but they did try to attract attention by firing several flares. The vessel eventually repaired their engines and proceeded into port. The missing man was not wearing a PFD when he was washed overboard. A search of the oil platforms in the area was conducted.

The 30 Ft. S/V LONNACH was endangered by heavy seas, and the two persons on board were extremely sick and exhausted, falling in and out of consciousness 120 NM south of Panama City, FL. CGC COURAGEOUS diverted to assist, but was unable to lower its boats due to the seas. The COURAGEOUS remained on scene with the sloop, providing medical advice while an HH-60J from ATC Mobile awaited daylight and slightly moderate weather in which to conduct a hoist. Both POBs were hoisted and transported to Panama City Hospital in stable condition. CGC COURAGEOUS was unable to take the S/V in tow due to weather, an it was left adrift.

FIFTH DISTRICT

131405 STA Wrightsville Beach received a radio call from the 42 Ft. F/V CARLA ANN with 3 POB. They reported they were taking on water from an unknown source and requested CG assistance. An UMIB was issued. A helo and C-130 were launched to attempted delivery of dewatering pumps. The vessel was reported to be foundering in 20 Ft. seas with no power and no way to maintain stability. The vessel was taking on water from an unknown source and its bilge pumps were not working. The helo was forced to land at MCAS CHERRY PT to refuel due to 40 kt headwinds and the high fuel burn rate. The C-130 attempted to deliver a pump to the vessel without success due to sea conditions. The helo arrived on scene as the vessel located the source of flooding and effected repairs and put its bilge pump on line. The vessel no longer requested CG assistance.

140015 D5 OPC received a 406 Mhz SARSAT composite solution from the 52 Ft. F/V THE WILLI with 5 POBs indicating the vessel was in some type of distress in the NC/SC Border area. A second 406 Mhz SARSAT alert was received at 150020 for this vessel. This vessel was escorting the F/V CARLA ANN enroute to Little River Inlet, SC. A SARSAT composite solution was received for the vessel and

attempts to contact the vessel via radio were unsuccessful. The F/V RASCAL answered the calls to F/V THE WILLI and maneuvered close enough to see the vessel was DIW with its 5 member crew huddled forward at the bow holding what appeared to be a flashing red light/beacon (possibly the EPIRB). When immediate launch of aircraft was prevented by the severe winter storm conditions, the CGC PT WARDE was recalled to assist. As the storm moved north, a Savannah HH-65A was able to launch in response to the distress. The E-City HC-130, which was at Wilmington due to the storm, managed to launch themselves without assistance since the airport was closed. The E-City HH-60J which had been launched the previous afternoon to assist the F/V CARLA ANN was shut down at STA Oak Island, and only had enough fuel to make a one time flight to the Wilmington airport. Efforts by D5 (opc), E-City, FAA Washington Center, and Station Wrightsville Beach to reach someone to open the fuel facility at the Wilmington airport were unsuccessful. A second E-City crew launched when the storm moved north of E-City. This HH-60J was the first to arrive on scene, delivered a pump to the F/V CARLA ANN, and attempted to establish comms with the F/V THE WILLI. The F/V THE WILLI'S crew was back inside the vessel's pilot house by this time. Due to inability to establish comms with the vessel, the HH-60J lowered a handheld radio to the vessel, only to have a crewmember come out on deck, recover the hand held, and throw it overboard. The aircraft departed the scene. PT WARDE continued to the scene and escorted the vessels until it was clear they were in no danger. Approximately 3 hours after the PT WARDE had departed the area a second 406 EPIRB composite was received. An E-City HH-60J and a STA Oak Island UTB relocated the F/V THE WILLI in no distress about 15 NM south of Oak Island. The UTB escorted the vessel for the remainder of the transit to Little River Inlet.

131600 Group Hampton Roads received a radio call from the 43 Ft. sailing vessel CHESAPEAKE with 5 POB. They were completing a voyage from Fort Lauderdale to Hampton Roads when winds gusted to over 50 knots blowing out their sails. They had no engine power and were in the vicinity of Thimble Shoals. The METOMPKIN was U/W enroute to SUPRTCEN for a dockside availability when it was diverted to assist. The vessel was taken in tow to Little Creek where a STA Little Creek UTB relieved the tow and safely moored the vessel.

140258 the F/V CARLA ANN reported its bilge pump stopped working and they were once again taking on water requesting CG assistance. Aircraft launches were delayed due to extremely poor weather conditions. Enroute to assist the F/V THE WILLI, The E-City HH-60J arrived on scene prior to the Savannah HH-65A and delivered a pump. The CARLA ANN indicated the pump enabled them to keep up with the flooding and they no longer required assistance. Station Oak Island conducted a dockside boarding of the vessel at Southport , NC.

FIRST DISTRICT

STA Eatons Neck received a call from an individual on VHF-FM CH16, stating he saw what appeared to be a red flare followed by a second red flare lasting one second in duration 3 NM S of Norwalk, CT. STA Eatons Neck searched the coastline from Contentment Island to Wilson Point with negative results. Noroton Fire Department searched Five Mile river also with negative results. STA Eatons Neck then conducted a first light search with negative sightings.

141546S RCC Halifax was notified by Halifax CGRS that the M/V GOLD BOND CONVEYOR was listing to port 12 degrees in position 41-38N 065-02W, 115 NM South of Nova Scotia enroute to Tampa, FL from Halifax. Weather on scene was hurricane force winds 50 to 70 knots, freezing sea spray, with poor visibility and fog. The M/V HAVKONG reported seeing the vessel sink. Eight aircraft, a Canadian CG Cutter, and the M/V HAVKONG searched the vicinity, sighting debris in the last known position 41-36N 065-12W. Two life rafts were sighted, one torn, damaged and covered with a canopy, the other partially deployed with no one inside. An empty lifeboat, partially broken up, was sighted, and a body in a lifejacket was recovered by a helo; He was identified as that of the M/V's radio operator. Three aircraft and the Canadian CG Cutter continued the search the next morning. U.S. Coast Guard assets offered to Halifax were not needed by the Canadian RCC. *ols*

F/V SEA KING, Lessons Learned

By: CDR Doug Perkins, G-NRS-1
LCDR Mike Monteith, G-NRS-2

Monday morning quarterbacking of SAR cases is never pleasant for those whose decisions are being second-guessed -- especially when those decisions are made in good faith, under pressure of time, with only limited information available, which is the typical situation. At the same time, we owe it to ourselves, and to those who put their trust in our professional abilities, to take a hard look at cases that don't have a happy ending. The F/V SEA KING was such a SAR case. In addition, the National Transportation Safety Board (NTSB) and Commandant's Vessel Safety Board have directed that lessons learned from the SEA KING case, be widely published to Coast Guard field units and operational commanders. The SEA KING incident really drives home the importance of risk assessment.

At 0839 on 11 January 1991, the F/V SEA KING reported that it was 3.5 miles north-northwest of the Columbia River entrance buoy, taking on water, and needed assistance. Four 44' MLBs from the National Motor Lifeboat School, underway for training, immediately responded. Station Cape Disappointment dispatched one of their 44' MLBs. Group / Air Station Astoria launched an HH-65 and assumed SAR Mission Coordinator (SMC) duties. Later, the 52' MLB TRIUMPH, CGC IRIS (WLB 395), and another helicopter also were sent out to assist. Weather on scene was: winds from the south-southeast 35 to 40 knots, seas 10 to 15 feet, visibility 1 mile. The weather forecast called for winds increasing to 65 knots with sea swells building to 16 feet.

Over the course of the next seven hours, two attempts were made to tow the SEA KING to safety across the Columbia River bar. During the second attempt, the F/V capsized and sank. Three of the seven people on board drowned, including a Coast Guard MK1.

The NTSB investigation concluded, "that the probable cause of the sinking of the F/V SEA KING was the Coast Guard's failure to determine the source and scope of the flooding and to dewater the vessel before attempting to tow it across the Columbia River Bar and the operator's failure to inform the Coast Guard of the status of the vessel's drainage system. Contributing to the loss of life was the failure of the on-scene commander (Commanding Officer, CGC IRIS) to remove all unnecessary people from the SEA KING before the second attempt to tow it across the bar."

Both the NTSB report and the investigation ordered by Commander, CGD Thirteen, raise several issues about how we handled the SEA KING case, issues that deserve careful contemplation.

ISSUE: No one was designated as On Scene Commander (OSC) until CGC IRIS arrived on scene in mid-afternoon. Various units sort of filled in the gap from time to time, but nobody was formally assigned the task of gathering pertinent information from the distressed vessel, communicating that information to the SMC, and coordinating on scene efforts. Consequently, those efforts were rather disjointed and critical information was not obtained (source of the flooding and status [flooded/dry] of all compartments on the F/V) or passed on to the person (SMC) who made decisions critical to the outcome.

RECOMMENDATION: *Paragraph 136 of the National SAR Manual recommends assigning an OSC whenever two or more SRUs are assigned to the same case. That same paragraph defines the OSC's duties.*

ISSUE: On scene efforts by surface and aviation assets assigned to the case were hampered by lack of familiarity with each other's capabilities. For instance, the pilot of the helicopter on scene decided to lower his ASM3 to the SEA KING's heaving deck when the first P1 pump failed to start. This high risk operation was undertaken in spite of the fact that the four 44' MLBs also on scene each had a pump that could have been transferred more easily to the F/V via heaving line. Likewise, when the decision was made to take noncritical crew members off the SEA KING and replace them with Coast Guard petty officers, it was decided to do this via

hoist (high risk) vice via boat to water transfer (low risk – the crew were all wearing survival suits). Hindering the pilots' ability to see other options, recommendations from the four coxswains then on scene were being directed to the CO of Station Cape Disappointment, on radio channels not monitored by the SMC. The hoist operation resulted in an apparent serious injury to a SEA KING crew member who fell back to the deck after the rescue basket became tangled in the F/V's rigging, parting the hoist cable. A further consequence was that there were seven people aboard (one of them strapped into a Stokes litter) when the F/V capsized.

RECOMMENDATION: *Aviators need to know more about what small boats and cutters can and can't do; surface operators need to know more about the capabilities and limitations of aviation assets. Frequent working level visits between units is the best way to foster that knowledge. During a SAR case, established communications channels (SRU to OSC to SMC) need to be followed.*

ISSUE: When the SEA KING capsized, there were four people inside the superstructure. Of those four, three drowned and the fourth (the ASM3) just barely escaped by dint of his superior physical conditioning and in-water training. The NTSB recommended that we "review and revise policies relating to Coast Guard air and surface units rendering assistance to vessels to ensure that all people remaining on board the vessels are situated so as to ensure their safe exit in the event of an emergency."

RECOMMENDATION: *The captain of any vessel under tow has the primary responsibility for ensuring that passengers and crew can egress safely in the event of a capsize or other emergency. The OSC should "remind" the captain of a vessel under tow that he/she should consider positioning his/her crew and passengers to provide for safest possible egress in the event of an emergency. When towing any vessel, especially in heavy weather, the OSC must weigh the risk to people on deck posed by breaking waves against the risk to those inside the superstructure posed by possible capsize.*

ISSUE: Neither the SMC nor the OSC ever insisted on knowing what was causing the flooding. No one ever demanded a space by space flooding verification. Communications about the state of flooding were misunderstood, i.e., the MK1 aboard the SEA KING reported the engine room pumped dry; by the time this information made its circuitous way to the SMC, it was transformed into "the boat is pumped dry". Hindering efforts to figure out what was going on was the decided lack of knowledge about his vessel displayed by the SEA KING's captain. Also, people on board did not recognize, in the F/V's improved sea keeping behavior, the signs of progressive flooding.

RECOMMENDATION: *The SMC and OSC must insist that critical information be obtained and passed to them. In a flooding case, the source and extent of flooding constitute critical information. Coast Guard personnel should be thoroughly familiar with the interior layouts of vessels typically found in their AORs. When the ride improves even though the sea state is the same, a warning bell should be ringing loudly in your subconscious.*

ISSUE: Experienced personnel on scene recognized that things were seriously amiss with the SEA KING before the second decision to tow it across the bar. They failed to speak up about their concerns, either at all or in an attention getting manner to the right people. To their credit, the 44' MLB coxswains did express their concerns, but they did so to the station commanding officer, not to the OSC or SMC.

RECOMMENDATION: *When something seems to be terribly amiss or unsafe, it probably is – failure to voice that concern loud and clear can get people hurt. The most effective way to communicate critical concerns is to get the other person's attention (address him/her by name in a strong voice), state your concern clearly (I don't think what you are doing is safe!), and make a definite recommendation for an alternate course of action (I recommend that we wait until first light before picking up the tow.)*

Managing SAR cases involves the fine art of risk assessment. In order to properly assess risks, we need to use our knowledge and experience to evaluate the facts of a given situation. In a distress situation, if we don't insist on getting complete information, our assessment of a situation can be seriously flawed. When responding to distressed vessels, our primary concern always must be the safety of personnel. Saving property is certainly desirable, but this secondary goal should not be pursued if doing so places personnel at risk of injury or death. The National SAR School teaches risk assessment to district and group OPCEN controllers. **(Continued on P. 38)**

A FLASH FROM HEADQUARTERS

By: LCDR D. L. Edwards (G-NRS-1)

A "FLASH" message that is! Headquarters SAR Division (G-NRS), Telecommunications Management Division (G-TTM), and the new Telecommunications Information Systems Command (TISCOM) are in the midst (not mists) of doing something with our VHF-FM communications network. Impact is more on the group level but it should ripple throughout the SAR organization. The network was established in the 1970's as the National Distress System (NDS) to provide distress alerting and coordination. Its excess capacity provided limited command and control. Twenty years of expanding mission functional requirements and technology advances have outstripped that system's ability to meet the Coast Guard's multi-mission, short-range communications requirements. The Office of T addressed VHF-FM system deficiencies a few years back as the "VHF-FM NDS Upgrade Project". When its scope and cost broadened to a potential Level III major acquisition, Headquarters Chief of Staff designated the Office of N as sponsor with G-T to provide technical support. Since the VHF-FM system has evolved to more than an NDS, both VHF and non-VHF solutions are being considered. The Project is now more appropriately viewed as short range communications.

Initial steps for the project were to determine the requirements and if there was a problem. This was done by the "mission analysis" (new management term for us but the process is here to stay). The mission analysis involved extensive coordination and participation by representatives from the Offices of M, N, O, T, A, and E plus field input (district and group replies to the VHF-FM survey in July 1992 had a major impact). It resulted in the Mission Analysis Report (MAR), Part I. MAR Part I concluded that the VHF-FM system lacked the functional capability to meet future mission requirements, specifically for:

1. Coverage,
2. Channel congestion/capacity,
3. Radio direction finding,
4. Digital selective calling (DSC),
5. Back up power,
6. Multi-channel/instant playback capability,
7. Command and control,
8. Interoperability,
9. Data encryption standard (DES), and
10. Data communications.

A CGHQ division-wide review board held May 20, 1993 concurred with the findings in MAR Part I and gave "initial concept approval" to proceed to MAR Part II. MAR Part II is to provide alternatives identification in general terms and a resource estimate. The MAR, Parts I and II, will lead to the decision on whether or not to establish a major systems acquisition project. This type of acquisition could cost mega-bucks. Current guesstimates range from $27M to $65M depending on the requirements met and the technologies used. However, the proper fix would also give years of quality performance in return for the investment.

Next SITREP should be routine, though we consider the upgrade of the VHF-FM system as a high priority to enable our short range communications to flash over the airwaves. *o/s*

RESCUE AND SURVIVAL SYSTEMS NOTES

By: CWO Mark O. Hyde, G-NRS-2

CAN YOU SURVIVE, TEST ANSWERS.

I want to thank the people who participated in the test, the participants did quite well, especially because the test was unfair. Many of the answers were from "How to Survive on Land and at Sea" available from the Naval Institute Press. This book and the Air Force Survival Manual AFM 64-5 are the two best sources for survival instruction. I also used personal experiences and training I had received for some questions. I had to allow two answers for Question number 6 after contacting the National Aquarium because the experts had conflicting views. BM1 Kevin Walker from ANT Humboldt Bay won the survival kit by only missing 5 questions. The following are my correct answers:

1. If you suddenly found yourself overboard what color float coat would you prefer to be wearing?
c. Orange

2. If the recoil rope breaks on the CG-P5 pump you can only start the engine if?
b. You remove the housing with your bare hands

3. A plus sign (+) folded on one side of a paulin or a (X) drawn in the snow means?
b. Need medical attention

4. How far is the maximum range of a survival mirror?
d. 100 miles

5. When tracking how do you tell if a deer (buck) is in rut?
d. His foot prints have drag marks

6. Sea snakes usually swim?
a. Under water (or) b. On top of the water

7. If you are in forty-five degree water without exposure clothing you should?
a. Remain as still as possible with your knees up toward your chest and your head out of the water

8. Which of the following edible insects contains 58% protein, 12% fat, 3% ash, vitamin B complex and vitamin A?
c. Praying Mantis

9. The best signaling device is a?
d. 406 EPIRB

10. In a survival situation personnel shall generally proceed in the following order?
A. FIND FOOD B. BUILD A FIRE C. FIRST AID D. SET SIGNALS E. MAKE A SHELTER
c. C.,D.,E.,B.,A.

11. Which of the following sources of plant food is always safe for consumption?
b. Aggregated fruits and berries

12. Scurvy is the result of the lack of vitamin A found in fat, liver, oily fresh and salt water fish.
b. False

13. What is the easiest mammal in North America to hunt and kill?
b. Porcupine

14. Which of the following birds or mammals are poisonous to eat?
d. No birds or mammals are poisonous to eat except the livers on polar bears or sea lions

15. Which of the following is a true statement about foods?
a. Snake flesh is generally safe to eat if cooked
b. Seafood is especially likely to spoil and should be eaten when fresh

c. Saltwater fish are generally free from harmful parasites
d. All of the above

16. Green grass contains vitamins A, B, and C. Try it.
a. True

17. Name the easiest area to survive?
c. Seashore

18. Small sharks, cornered in shallow tidal pools, make very good eating.
a. True

19. Which of the following is a false statement about water procurement?
a. Melted ice that is formed from sea water is acceptable as long as it is gray and hard

20. Puffer, trigger, and parrot-fish that feed on coral are good eating and a source of iodine which is a necessary nutrient.
b. False

21. Without matches, what is the next best method to start a fire?
b. Flint and steel

22. With a watch set to local time during how can you use the sun to find rough true headings in the northern hemisphere?
c. By pointing the hour hand at the sun, and south is found by bisecting the angle between the hour hand and 12:00

23. How should you use a pole about five inches in diameter and eight feet long to forge a four foot deep swift stream?
a. On the upstream side to break the current

24. All eggs are considered safe for eating.
a. True

25. To treat frostbitten hands you should only?
d. Thaw them rapidly in warm water

26. What is the maximum effective range of a whistle?
d. 3000 feet

27. Sharks go crazy at the smell of human blood.
b. False

28. How do you locate the North Star?
b. The two stars at the far end of the pot on the Big Dipper point to it

29. Which of the following statements is true regarding sea anchors
d. Deploy the sea anchor so it is at the trough of a wave when your raft reaches the crest.

WHY ASK, WHY?

Here I am on my soapbox, if you have a minute, I want to talk about Risk Assessment. **This is my personal feeling and is not Coast Guard policy.** I know in my case this is the advice I will follow to save my own skin. In this job I have a chance to read quite a few accident/incident reports and it burns me up when I read about how we get ourselves into situations where we end up hurting our own personnel or someone we are rescuing.

In many cases the problem starts with someone running a desk demanding things that put us at risk. They are not on scene nor do they know the true environmental conditions. These desk people are usually senior and have "done it all before." If their requirements put you or your crew in danger "Question Authority."

The next major problem is what I call the "Spiderman Syndrome." This is where the action is thrilling, you're "saving lives," and nothing can go wrong because you're spiderman. This is probably the most dangerous of all the situations because everyone on the crew can get caught up in this behavior. If you feel this behavior happening, my advice is, stop everything you're doing and start thinking about the worst thing that could happen, and how you would deal with it. This usually fixes this problem in a hurry.

The last problem is the lack of proper equipment, training, and risk assessment when performing in stressful situations. These items are inherent problems with all organizations, stemming from lack of leadership or the fiscal inability to correct the problem. We all have to demand better training, equipment, and make our leaders responsible for their actions in order to fix this problem.

The Coast Guard hired us to save lives in extreme conditions, so we put ourselves at risk every time we go out. I am a firm believer that we should be flexible in most situations but we SHOULD NOT go beyond our personal or equipment safety limits. These limits should be addressed before we get ourselves in the stressful situations. Why ask, Why? Because I want to live. *ok*

47-foot MLB UPDATE!!!

By: CDR M. J. Lewandowski, G-NRS-2, Sponsor's Project Officer

This is the first UPDATE article in On Scene since last summer's *Special Motor Lifeboat Edition*. In that time, quite a bit has occurred.

Since December 1992, I've worked closely with LCDR Mike Monteith to assume the Search and Rescue Division duties as Sponsor's Project Officer. LCDR Monteith has moved on as Deputy Commander, Group Seattle, WA. Immediately, I realized the intense effort that all those involved in the Motor Lifeboat Replacement (MLBR) put into the project. Throughout this article, I'll mention some people but will probably miss others. All have a vital role in keeping the project on track. With a large number of people involved, we occasionally differ in what we feel is the most appropriate way to accomplish our goal, but I guarantee that EVERY SINGLE ONE OF US IS FIRMLY COMMITTED TO BRINGING THE COAST GUARD THE BEST NEW MOTOR LIFEBOAT POSSIBLE.

What's taking so long?

Though the initial contract-end date (when Textron Marine Systems was to have all five preproduction MLBRs delivered) was May 28, 1993,The first boat is expected to be delivered by September 1, 1993. The most recent Textron delivery plan shows delivery of all boats by September 20, 1993. Numerous production and outfitting delays have occurred, but the primary emphasis of both the Sponsor (G-N) and the Acquisition Project Manager (G-AMB) has been the delivery of a quality product. Throughout the process, LCDR Dennis Blackall, the Project Resident Officer (PRO), has been the major force in assuring a high level of quality. LCDR Blackall's billet went away on July 1, though, and he's now at the Naval War College in Newport, RI. CWO3 Doug Carroll has assumed the PRO duties through delivery of 47205, and will continue to administer warranty repairs for the next year.

After a boat is built but before it's trucked to its destination, it must pass Preliminary Acceptance Trials (PATs). When the PRO decides that a vessel is ready for PATs, a team (the "PAT board") meets and puts the boat through its paces. The PAT board is made up of two PRO staff, a Headquarters Naval Engineering rep (LT Bert Brasz) and BMC John Dodd with either MK1 Eric Williams or MK1 Terry Vanderwerf of the MLB Transition Team from the National Motor Lifeboat School (NMLBS). In addition to conducting six underway trials (2-3 days straight), they compile a detailed discrepancy list. Then they prepare a written recommendation on whether the Coast Guard should "accept" the boat.* The recommendation is then reviewed by a HQ team (the Acquisition Project Manager and Deputy (CAPT Allen Boetig and Mr. W. Alan Jaeger), the sponsor's project officer, and the Contracting Officer (Mr. Phil Evans (G-ACS)). This group decides whether to "accept" the boat, and the Contracting Officer (KO) then notifies Textron. We didn't accept 47201 the first two times around.

If you wonder why I'm telling you this, it's just to show how complicated and time consuming things really are. We all try to make the proper decision. Sometimes the discussion gets heated. None of the calls are "easy." For quite some time there was a strong undercurrent to have "a new MLB in the fleet by Spring '93" but here it is already the middle of summer. Everything done on the project directly relates to time, money, quality and "external influences." After all, this is a VERY, high visibility project.

Let's talk boats

Almost 100 design changes have been incorporated between the prototype and the preproduction boats. Many of these changes involved modification and redesign of numerous components and subsystems. In addition to the planned changes, a number of things came up which led to in-construction changes

**"Final" acceptance is one full year after delivery to a station, upon expiration of the warranty period.*

(read delays). Watertight integrity, one of the most important features of a self-righting motor lifeboat was identified as requiring additional effort. The original doors and hatches with "tube" gasket seals wouldn't really seal, and compartments wouldn't pass air-testing. Doors and hatches have been replaced even before the boats have left the yard.

Even so, a number of items will require retrofits once the preproduction boats are in the field. Pneumatic cylinder door opening mechanisms will be installed in the field (as used for the rear hatch on the back of many utility vehicles or minivans). A radar switching unit has been developed to allow either the open or enclosed bridge radar to act as the "master." Now, only from the enclosed bridge radar can the operator control radar functions. The open bridge radar acts as a repeater. Towline retrieval assist drives will be installed. Cooling water system redesign and component changes and fuel filter changes (to spin on vice canister) are two items that need to be done in the engine room. The enclosed bridge will have automatic window "release mechanisms" installed. These will allow quick drainage of water should the enclosed bridge be sufficiently damaged during a capsize (highly unlikely).

Paint

The picture below is what 47201 looks like in the standard service "livery." Though much furor has come and gone about the topside paint scheme, there are more serious concerns about the antifoulant protection (bottom paint). The elastomeric system tried on the prototype seems to be holding up, though a full inspection will be made during an upcoming availability. Due to problems with surface preparation, the paint system failed on 47201, with large sections of paint falling off. The boat requires full repainting before delivery (more delays). The elastomeric paint system will be fully evaluated during Operational Testing and Evaluation (OT&E). We might not have this item solved yet, but CWO2 Sue Wroton (G-AMB), Mr. Larry Espenshade (G-ENE) and the paint manufacturer are paying very close attention to it.

Figure 1. CG47201, sporting "standard" CG paint scheme, underway in the Louisiana Bayou

Operational Testing & Evaluation (OT&E)

The year long program will help to ensure that this is the boat we want. As delays in preproduction vessel construction dragged on, there was concern that the OT&E would be rushed or shortened to meet a schedule. Both the sponsor and the project manager feel very strongly about keeping the full year's OT&E (a full year from delivery of the last boat). This will ensure that we have enough information to know whether the boat meets the Critical Operational Issues (COIs) of maneuverability, survivability, habitability, predictable behavior, and supportability. The boat must clear all these hurdles before we proceed with full production. The OT&E will also give us the opportunity to discover additional changes and refinements to the boat's design and equipment before full production.

The CG Research and Development Center (R&DC) has been the key player in developing the OT&E program. LCDR Darrell Milburn (now Deputy at Group Ketchikan, AK) and Mr. Ed Purcell have gone to great lengths to apply available technology to measure operational effectiveness and suitability. Two of the "neat" items developed are a Motion Data Recorder (MDR) and a Reliability, Maintenance and Availability (RMA) Logbook. The MDR is like an aircraft cock data recorder. We will be able to determine effects of the environment and control inputs on the motions of the boat. The MDR will also be able to keep an extremely detailed record of activity based on a "significant event". Initially, a significant event is defined as a roll of over 45 degrees. If all goes well, a full recreated animation of the boat's motion will be possible. The RMA logbook will be an initial attempt at automatic record keeping. The numbers associated with "up" or "downtime," whether skill levels are appropriate to the maintenance task, and time/equipment/spares required for routine maintenance should show, quantitatively, whether the boat "fits" our present manning and funding posture.

Pictures and numbers won't tell the whole story. A series of "gut checks" has been designed to get the straight scoop form the operators. Dr. Tony Carvalhais of the R&D Center has worked with Battelle Institute/Seattle to develop a type of crew survey/question interview procedure. This will allow the boatcrews to voice their opinions and concerns about anything related to the boat from maintenance through heavy weather operations. Besides finding out subjectively whether the boat meets the COIs, any common trends or concerns can be readily identified. These concerns can then be related to future design changes.

Dr. Carvalhais is also working with Navy Biodynamics Laboratory in assessing whether there are any human factors deficiencies which need correcting. Though many deficiencies had been identified in the prototype and corrected on the preproduction boats, this further assessment could remove other "knee-knockers" or "head-bangers" that we've become accustomed to. Crew fatigue will also be revisited, but it would be very premature to expect new, hard and fast standards to be developed by the end of OT&E.

The two other elements of the OT&E will be a "Ready for Operations" evaluation conducted by the MLB Standardization/Transition Team (well into the year) and a short report from each preproduction site unit commander (at the end of OT&E). The Ready for Operations evaluation will provide the sponsor with an outside check, based on standard procedures, of how well the boats are being maintained and operated. The unit report will be a short, preformatted statement from the unit commander on whether, in their opinion, the boat met the critical operations issues.

Only after all this will the sponsor be able to say "let's buy more" or "let's not buy more".

Changes and Improvements

From the sponsor's aspect, a primary benefit for the full year's OT&E will be the opportunity to consider different Engineering Change Proposals. We will fully use this chance to make further design and outfitting improvements to the production specification.

As mentioned earlier, numerous changes and improvements have already been made between construction of the prototype and the preproduction boats. Though we don't expect the overall design to change much, it is impossible to speculate at how many other items on the boats, from outfit to fasteners or navigation equipment to layout, might

be improved, if any.

All proposed changes to the boat or its outfit will be carefully reviewed by a configuration control board. Validity of an idea or proposed change will be viewed with respect to concerns as: effect on vessel performance, weight or vertical center of gravity; compatibility with other vessel systems and layout; maintainability; functional improvement versus sponsor's requirements; and cost.

If the configuration control board decides to implement a proposed change, all attempts will be made to actually (physically) evaluate it prior to fleet-wide incorporation. This would particularly apply to major structural changes. Any such items would first be tried on the prototype, 47200. An example is access to the lazarette (and steering gear). Now, access is difficult, at best. The watertight hatch is extremely small, close to the deckplates, and is directly aft of a vertical obstruction (tow bitt support stanchion). With the Transition Team, Mr. Dave Shepard of the Naval Engineering Division is designing and evaluating an alternative. He provided some sketches shown in figure 2. This method of improving access requires a larger hatch, which in turn requires major modification to the exhaust system. We're talking LOT'S of work here. We'd be foolish to change all five boats without actually trying it out once.

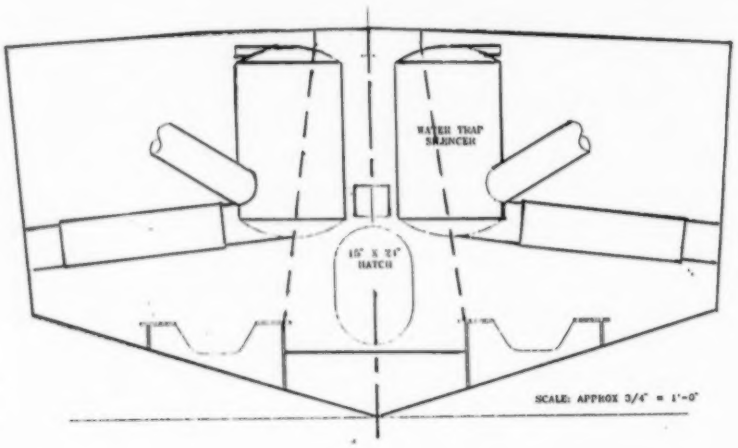


Figure 2 (a): Existing arrangement, lazarette access hatch between water trap silencers

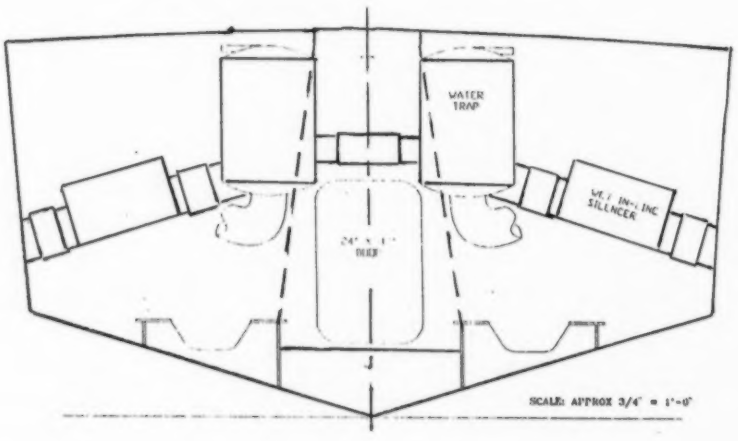


Figure 2 (b): Proposed arrangement, larger lazarette door with smaller water traps and in-line silencers

That brings us to the next point: The 47' MLB will be the first major Coast Guard boat class to have dedicated configuration control. This means there will be no unauthorized BOATALTS, outfit changes, unit/gru/dist "add-ons," etc. allowed. With configuration control, all engineering change proposals, outfit and allowance list changes and requests for BOATALTS will all be reviewed, and if approved, promulgated for the entire fleet. (This includes spare pumps, cellular phones, hammocks, M60 mounts, extra fuel capacity and the like.) If you have an idea that you think is good, submit it for review! All ideas will be closely reviewed. Since most of the CG hasn't been fully involved with the the whole design, prototype, changes, and preproduction process, some ideas may already have been thought about and dismissed, but we'll let you know! We'll even reconsider "old" ideas if you tell us. From the sponsor's side of things, WE PROMISE to stay away from the "not invented here" attitude that frequently stifles field input. However, if someone has a good idea, it always helps to explain the functional side of it, otherwise *we* have to try to figure it out.

Though only the preproduction site stations will have the opportunity to fully operate and evaluate the boats, we encourage everybody to take advantage of any chance to see the boats or ride on them. The short time frame of the OT&E does not permit us to send the five boats all around the country (like the Royal National Lifeboat Institution did with their two new Fast Afloat Boats), but you might be able to spend a day at one of the preproduction site stations. Within the constraints of OT&E, we would like to get as many Coasties as possible exposed to this new craft. If you get a chance to see these boats, tell us what you think. We would especially like to hear from boat crews. ***o/s***

NMLBS Dedication

By: LCDR M. A. Monteith, G-NRS-2

Dedication ceremonies for the new "School House" of the National Motor Lifeboat School were held on April 22, 1993 at Ilwaco, Washington. In keeping with the tradition of Cape Disappointment, the ceremony was held indoors as a full gale persisted across the Columbia River Bar.

Cutting the ribbon, VADM Daniell, RADM Ecker, CWO4 William Ham, Giles Vanderhoff

The ceremony was highlighted by a keynote address from VADM Martin H. Daniell, Commander Pacific Area. Setting the stage for his remarks was an introduction on the evolution of Lifeboats in North America, presented by William D. Wilkinson, Director of the Mariners' Museum, Newport News, Virginia.

In his remarks, Admiral Daniell praised the National Motor Lifeboat School as the "Graduate School of Coastal Search and Rescue." The keynote speaker pointed out that the Coast Guard is now on the threshold of a new era. He reflected upon having seen, during his career, the 36' MLB give way to the 44' MLB which is now being replaced by the 47' MLB.

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In his introductory remarks, Mr. Wilkinson lauded the forward thinking of lifeboat sailors who, in 1899, put a 12-horsepower gasoline engine into a into a lifeboat in Marquette, Michigan. Mr. Wilkinson noted that Ransom Olds did not introduce his famous curved dash Oldsmobile runabout until 1902 and Henry Ford brought us the Model T in 1908

The National Motor Lifeboat School recently moved into its new facility at the mouth of the Columbia River. The building was specifically designed to accommodate the special needs of the students. Such features as wet rooms with showers which lead directly into lockers and change facilities make the transition from underway to classroom efficient and painless. The new facility also physically consolidates command, training, administration, and engineering, and Standardization Team functions in one location for greater efficiency and better service to field units.

Editors Note: *NMLBS plans to use the "blank" passageways in their new facility to illustrate the heritage of lifesaving in North America. If you have, or know of: photos, models, or historical documents about your unit's past, then please jot down a description of them and send it to NMLBS. They will document your inventories and hope to arrange for copying some of the most descriptive of these to display in their entrance gallery and passageways. NMLBS also plans to forward your notes on to Mr. William D. Wilkinson of the Mariners' Museum.*

Maritime SAR Assistance Policy

By: CDR Doug Perkins, (G-NRS-1)

Every year I am invited to address the annual C-PORT convention. C-PORT stands for the Committee for Private Offshore Rescue and Towing. It is basically an umbrella organization of commercial maritime assistance providers which maintains a Congressional lobbying office here in Washington. They have 125 card carrying members at present, many of whom get together once a year to discuss industry issues, including the Coast Guard Maritime SAR Assistance Policy (MSAP), and "have me for lunch."

At the last C-PORT convention I distributed a survey to those who were present. In addition, the survey was sent to all *Sea Tow* licensees. 63 commercial assistance companies returned the survey, accounting for between 20-25% of the estimated total number of assistance firms nationwide. When considering the survey results, bear in mind that C-PORT members tend to be from the larger, more successful assistance companies.

How many cases do commercial providers handle each year? The short answer is nobody knows. Respondents to my survey said they answered nearly 20,000 calls for assistance in the preceding year, but that only 20% of those calls were relayed to them by the Coast Guard. SARMIS had data for 4,254 commercial responses last year. But if you figure that SARMIS only represents 20% of the commercial cases, then the total commercial assistance case load would be just over 21,000 responses. An industry spokesperson who considers himself knowledgeable on this subject estimates that the total CY93 commercial assistance case load was 36,000 responses. The "correct" answer probably lies somewhere between these two numbers.

Survey respondents said 74% of their cases were disabled/adrift, 20% were groundings, and 6% were emergencies; this information correlates extremely well with SARMIS data.

The respondents were asked to indicate their satisfaction with various entities, measured on a 1 to 5 scale with 5 being "Very Satisfied."

Overall satisfaction with the MSAP was 3.5. Not bad, considering how many compromises went into the present policy when it was rewritten back in 1988.

The station with which the commercial provider worked most closely was given an average rating of 3.8. Well done!

The Coast Guard group in whose AOR the commercial provider operates was rated 3.7. Also well done!

Other towing companies operating in the same area were rated 3.2, but there were a lot of 1's and a lot of 5's.

Survey respondents were asked, "If you could change just one aspect of the CG MSAP, what would that be?" The majority of respondents wrote down the same thing, "Have the Coast Guard consistently follow the policy!" This answer was given four times as often as the second most numerous response, which was "Issue MARBs faster." This result clearly indicates that we still have a way to go in understanding and consistently applying our own policy.

As professionals, we owe our customers the very best service that we can provide. In the MSAP arena, our customers include the boater requesting assistance, the Coast Guard Auxiliary, and commercial assistance providers. **You can't do a professional job serving these customers unless you thoroughly understand the MSAP.** When is the last time you read Chapter 3 of the Coast Guard Addendum to the National SAR Manual???? That is the ONE Coast Guard policy on Maritime SAR Assistance. That is the one that we must follow. NO change is foreseen or planned. Because the MSAP reflects major compromises between the Executive and Congressional branches of the government, and between the Coast Guard, Coast Guard Auxiliary, and commercial providers, there is no room for revision by the districts, groups, or stations. *o/s*

Commercial Assistance Competition

By: CAPT J. B. MORRIS CO, MSO/Group Los Angeles-Long Beach

Over the last year, commercial assistance competition in the Los Angeles/Long Beach (LA/LB) area has increased substantially. We found that the more fierce the competition, the sooner commercial assistance firms try to "cut in" on our efforts to collect information during the initial stages of a call for assistance. Radio watchstanders at the commercial firm dispatch centers, listening in on Channel 16, would make their own determination of non-distress within the first few questions, would quickly contact the calling mariner and shift them to their working frequency (channels we cannot monitor). We would immediately contact the dispatch center landline and order the watchstander to return the mariner to channel 16 where we would continue with case prosecution. This situation has happened at least twice in the last 4 months, both were documented as FCC violations and neither ended in tragedy. We also had one case where a commercial assistance firm contacted a calling mariner on Channel 22 while we were MARBing him on Channel 16. This mariner was told to shift to the firm's working frequency before the MARB was even finished.

Feeling that the situation was getting worse and that the busy Summer SAR season was rapidly approaching, we felt we had to come up with a tool that would help commercial assistance firms in two ways:

a. Explains in detail the process that the SMC goes through to classify a case as non-distress (outlined in reference (a) - Not just a quick decision. Many factors, we call it "the TEN FACTORS," must be explored.) and

b. Gives strict instruction on when the commercial firm can attempt initial contact with the mariner requesting assistance (attempts to contact the mariner prior to this time or in what we call the "Non-Interference Zone" will be considered interference and prosecuted as an FCC violation).

DIAGRAM (1) is that tool: the SMC Assistance Decision Matrix (SMC ADM). Not only does it address the previous two concerns, but it also acts as a quick reference guide for our SAR controllers.

We held a meeting of all the commercial assistance firms in our area on 10 June 1993 and the SMC ADM was well received by all. From this matrix, they saw that many things went in to determining the classification of a case (most of which they were never aware) and that their attempted contacts during this process created undue interference. Interference that may result in tragedy. Short, pertinent calls to the CG during this "non-interference" period are allowed (and if critical to the case; appreciated).

The SMC ADM very clearly shows that commercial assistance firms can only contact the calling mariner at two points:

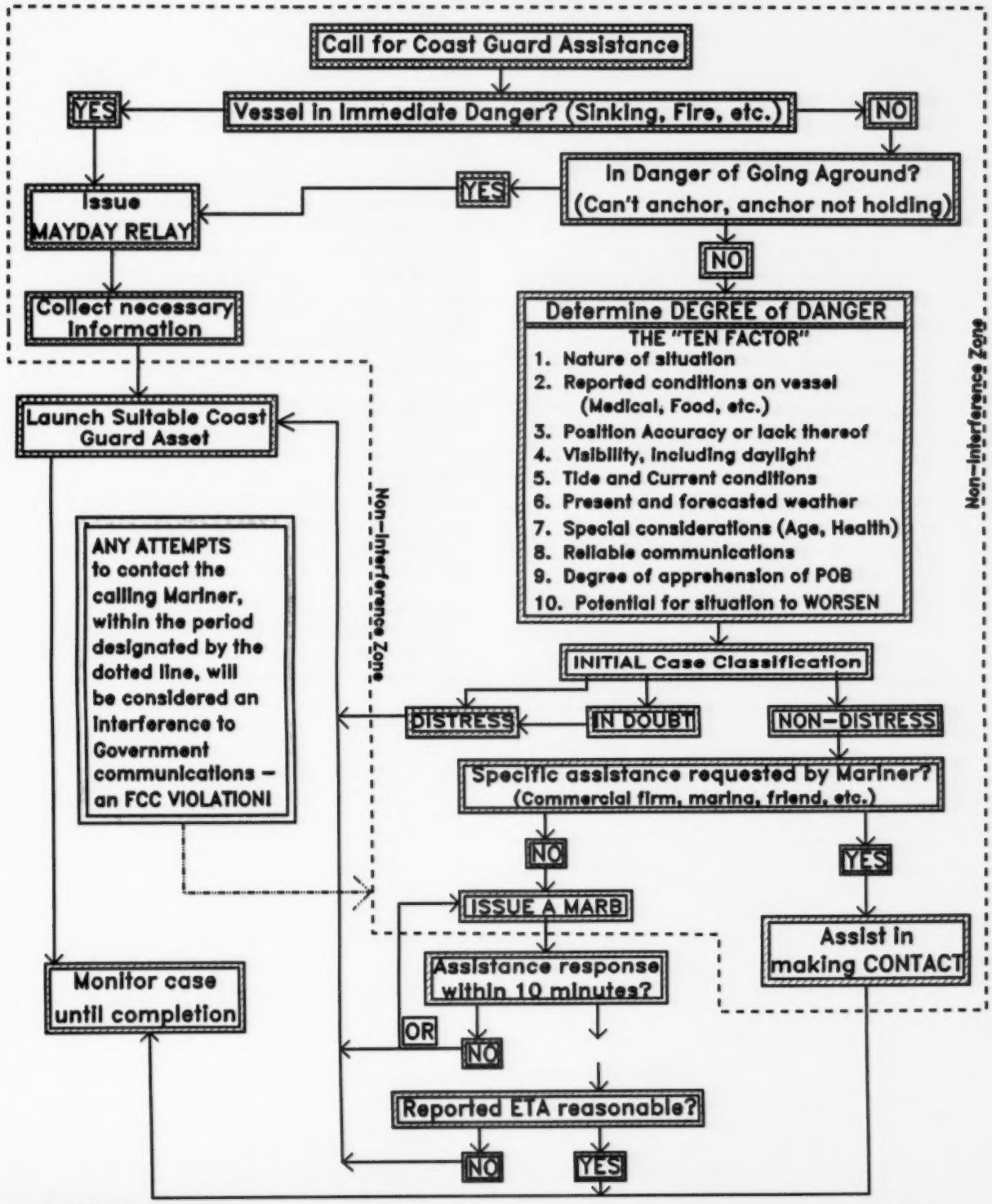
a. AFTER the completion of the MARB and

b. AFTER the CG provides assistance in contacting the specifically requested person, firm, marina, etc. [Eg. You can reach Vessel Assist by calling Vessel Assist on channel 16...you can reach the 24 hour NBOA dispatch center by calling (telephone number) collect through the marine operator...etc.]

All firms are now using this matrix in their dispatch centers, hopefully eliminating the early "cut in" situations.

We feel this tool could be of use to other units who may be having similar problems, if it is deemed appropriate for their situation and area of responsibility.

US Coast Guard SAR Mission Coordinator (SMC) Assistance Decision Matrix


Call for Coast Guard Assistance
Vessel in Immediate Danger? (Sinking, Fire, etc.)
YES
NO
Issue MAYDAY RELAY
In Danger of Going Aground? (Can't anchor, anchor not holding)
YES
NO
Collect necessary information
Determine DEGREE of DANGER
THE "TEN FACTOR"
1. Nature of situation
2. Reported conditions on vessel (Medical, Food, etc.)
3. Position Accuracy or lack thereof
4. Visibility, including daylight
5. Tide and Current conditions
6. Present and forecasted weather
7. Special considerations (Age, Health)
8. Reliable communications
9. Degree of apprehension of POB
10. Potential for situation to WORSEN
Launch Suitable Coast Guard Asset
Non-Interference Zone
Non-Interference Zone
ANY ATTEMPTS to contact the calling Mariner, within the period designated by the dotted line, will be considered an interference to Government communications – an FCC VIOLATION!
INITIAL Case Classification
DISTRESS
IN DOUBT
NON-DISTRESS
Specific assistance requested by Mariner? (Commercial firm, marina, friend, etc.)
NO
YES
ISSUE A MARB
Assist in making CONTACT
Monitor case until completion
Assistance response within 10 minutes?
OR
NO
Reported ETA reasonable?
NO
YES

Props: Experience or Computers?

By: BMC Doucette, Station Niagara

I wrote a very basic article on propeller selection and outboard motors for Coast Guard use (O/S 01-92) that has generated more than a bit of discussion. The article describes some basic guidelines to improve the mission effectiveness of outboard powered boats.

The folks at Naval Engineering provided a fascinating response (see *On Scene* 1-93 "Technically Speaking"). While exquisitely detailed and probably technically correct, I disagree with some of the conclusions drawn.

As I interpret the article, their computer predicts that if you try to tow something at 10 knots with a single 250 HP outboard at full throttle, you will get cavitation, therefore, the principles I presented are not valid.

While I certainly don't doubt you could experience cavitation, I think you would also:
1) Damage or sink the vessel you are towing, or
2) Part your towline, or
3) Tear the bit from the deck.

I recall from my WPB days that an Island Class 110' requires 185 HP to make about 10 knots. When towing at this power setting, our 4" towline was near its safe working load, and our speed reduced to about 8 knots. Think of the bollard pull we would generate in our non standard boat with a 250 HP engine at full throttle making only 10 knots if the propeller did not cavitate!

To determine safe towing speed, we use a formula incorporating the waterline length of the towed vessel. (See Boat Crew Seamanship Manual table 12-3). For a vessel to be towed SAFELY at 10 knots, it needs a waterline length of about 65 feet. A 65 foot vessel towed at 10 knots seems a tad big for the non standard boats in the Coast Guard. Computer programs are great tools, but they are a poor replacement for training and experience.

I stand by the original article as published. Increasing the diameter and decreasing the pitch of a prop provides more usable thrust. If cavitation occurs, reduce your throttle setting. The formula I presented is an easy way to match the prop load to the engine. It is a simple and reasonable way of improving our non standard boat's mission performance and reliability.

Editor's Note: Since this topic keeps coming up, at least a few people are reading this magazine and more importantly, sharing concerns with the rest of the SAR community. Keep up the good work! *o/s*

Coast Guard Auxiliary Land-Mobile SAR Support Works in San Francisco

By: Robert M. Peterson, OPS Officer, USCGAUX, Flotilla 19, D11

If asked to list Coast Guard Auxiliary SAR assets, the image that comes to mind for most *On Scene* readers is that of a private vessel or aircraft, which has been outfitted with extra SAR gear and accepted by the District to perform safety and regatta patrols and respond to SAR call-outs. Less well-known, but equally valuable, when needed, are Auxiliary land-mobile units and fixed-land radio stations. The balance of this article describes how Auxiliary land-mobile units have filled a small but important "niche" in 11th District operations.

Auxiliary operational facilities (whether boats, aircraft or radio units) are, with few exceptions, the private, personal property of individual Auxiliary members, who have completed specified advanced training in the Auxiliary's Operational Specialty Course and Boat Crew Training Programs. These facilities are usually outfitted with communications, navigation, and search and rescue gear far in excess of usual "civilian" boating standards. For aircraft, this upgrading often involves added radio, navigation and direction-finding equipment. Auxiliary vessels supplement these additions with extra fire-fighting, dewatering, and towing gear.

"The ability of a land-mobile unit to relay tactical comms between the fire, police, or EMS units on scene, and the SMC or OSC is invaluable."

But what, you ask, is an Auxiliary "land-mobile" unit; how is it equipped and how can it be used? Reflecting the diversity of its membership, no two Auxiliary "mobiles" are outfitted exactly the same. And since, with rare exception, Coast Guard funds may not be used to equip such facilities, the type and amount of communications and other gear carried aboard an Auxiliary land-mobile unit varies with the interests, training, experience and budget of its Auxiliary owner/operator.

A minimally-equipped Auxiliary land-mobile unit would be comprised of a vehicle (ranging from a car or Jeep, to an RV or dedicated "Comm Van") and would include at least a marine VHF-FM transceiver, charts and/or road maps of the area in which it operates and some plotting tools. Better equipped units will carry binoculars, a spotlight, signaling devices, spare line, PFDs, flares, jumper cables, tools, and extra clothes. A "hard core" Auxiliary land-mobile operator may add a second fixed-mount and/or hand held VHF radio, a programmable scanner and radios to operate on other authorized frequencies. Cellular telephones are seen more and more. Where appropriate, land-mobile operators often assemble a "helo kit" with orange smoke signals, headphones, goggles, a small compass and hand held anemometer.

In many districts, land-mobile operators may sign up for scheduled patrols, just like their vessel and aircraft counterparts. In this mode, land-mobile units support Regular and Auxiliary boat crews with logistical matters and by performing harbor checks. They can respond to marinas in advance of a tow, to clear dock space and assist with line-handling. They can record SAR case data, if the UTB or Aux Vessel needs to get underway again quickly. Land-mobiles can maintain a watch on grounded vessels, often far more effectively and comfortably than a surface unit can. This suggests only some of the ways in which Auxiliary land-mobile units can provide significant SAR support.

Another valuable service land-mobiles perform involves liaison work with fire, police and other agencies responding to a case. The ability of a land-mobile unit to relay tactical communications between the Fire Chief, State Trooper or other emergency service agency on scene and the Coast Guard SMC or OSC is invaluable. An extension of this capability in support of helicopter operations is the source of

considerable Auxiliary land-mobile activity in the San Francisco Bay area.

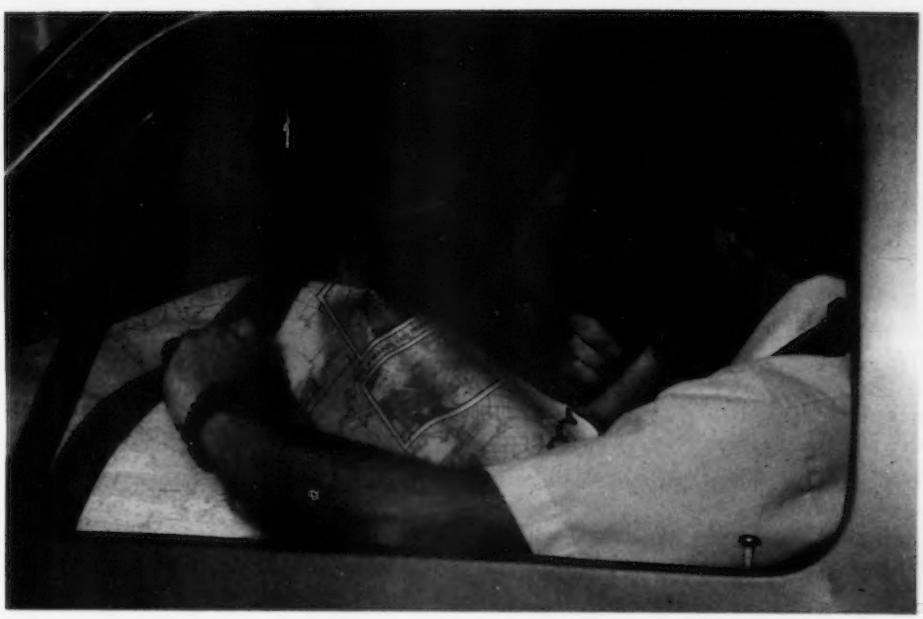
The VHF-FM transceiver on the H-60 helos flown out of Air Station San Francisco can operate over a wide portion of the VHF-FM "public service" band used by local fire and police agencies. However, that radio utilizes a 25 kHz channel spacing standard not adhered to by the local fire and police departments. For example, the "White Fire" (mutual aid) channel throughout most of Northern California is on 154.28 MHz. The H-60 can tune to 154.275 or 154.300, but not in between. Similar "non standard" frequencies exist for CLEMARS (California Law Enforcement Mutual Aid Radio System) and other channels utilized by emergency service agencies in Northern California, preventing direct contact between the H-60 and fire or police units on scene.

An Auxiliary land-mobile unit, parked alongside the fire engine, rescue squad or police vehicle on scene, can relay vital communications between the helo and those non-Coast Guard assets, avoiding the time delays and misinformation inherent in relaying comms through multiple dispatch offices. At least in San Francisco, the benefits of this program have been so successfully demonstrated that the Group's second phone call (after calling the Air Station) is for an Auxiliary land-mobile unit to respond to the scene. This in turn has caused the Auxiliary District Operations Officer to organize an Auxiliary Watch Officer program to keep tabs on the whereabouts and availability of Auxiliary land-mobile resources; a concept others faced with similar problems might want to explore.

The Following Pictures Show, 11th District (NR) Coast Guard Auxiliarist Fulvio Dapas Operating "Coyote Point Mobile 25" from the Dikes and salt marshes of Southern San Francicso Bay, Searching for an overdue fishing boat in waters too shallow for UTB access.

Authorized magnetic "Patrol" signs transform Auxiliarist's private vehicle into an Auxiliary land - Mobile unit.

Auxiliary operator relays search results to the controlling Coast Guard unit via marine VHF–FM radio.



Operational Training Team

By: ENS N. GIRARD, Group Moriches

In response to the continuing struggle toward standardization of small boat operation and maintenance, Group Moriches has developed a unique training program which draws on the experience and commitment of its unit personnel.

The best qualified coxswains and engineers from each of Group Moriches' four boat stations, as well as from the Group SARDET, were selected to form the Operational Training Team (OTT), to interface and share information and expertise in a semi-annual training program.

The OTT was developed in 1991, after a visit from the Motor Life Boat Standardization Team revealed vast differences in training techniques and results from station to station. Group Moriches was one of the first visits for the MLB Standardization Team, which evaluates maintenance and training procedures, and promotes standard practices on MLBs throughout the Coast Guard.

"The Stan Team visit went very poorly in general. One station did remarkably well, one station did remarkably poor and the others were in the middle." said LT Jim Olive, Group Moriches Ops Officer. The Group sat back and decided they have a serious problem. The Group needed to put together some kind of training program to ensure all the stations were practicing the same techniques.

A request for applications went out to each station soliciting the "best-of-the-best" coxswains and engineers to join the team. At least two coxswains and two engineers were selected from each unit.

Under the original curriculum, the OTT met twice a year for three-day training drills at each of five locations within the Group, including Stations Jones Beach, Fire Island, Shinnecock, Montauk and the Group Moriches SARDET. Training evolutions followed the Commandant's "Ready for Operations" procedure list. The program proved to be highly successful in standardizing procedures, not only for MLBs, but for all of the Group's boats.

From a coxswain's perspective, the training allows close interaction between crews from different stations, according to OTT BM1 Tom Young, a Coxswain from Station Shinnecock. "During routine training drills at individual stations, the coxswain has so many things to remember that he might not pick up on a lot of the small mistakes by the crew. Then those mistakes might be practiced over and over again," Young said.

MK1 Chris Brady, an OTT engineer, said the program has allowed him not only to make valuable contacts within the Group, but it has also opened up a forum for new ideas. "I can show other stations what works at my station, which does a lot of training for surf and heavy weather conditions, and I can learn from other stations that might work more in the back bays."

BM1 Young agreed that the OTT provided an important networking tool, especially for coxswains. "By bringing together coxswains from different stations, more options are thrown out on the table. Three coxswains will have three different backgrounds and three different points of view toward the same results," he said. "The team provides a way for everyone to benefit from the variety of experiences of team members."

Now that the program is established, the team has moved from the three-day biannual program to a two-day annual training session at each station, which is scheduled to coincide with the formal boat inspection and "Ready for Operations" inspection each year. "At first, there was a lot of information to put together and discuss at the training," said BMCM Ed Michels, who helped develop the program. "Now that everyone knows the basic drills, we feel one meeting a year is sufficient to review and share new ideas."

Generally, training at small boat stations is considered part of the individual unit's responsibility, rather than a Group responsibility. "Fifteen years ago, the Coast Guard had small boat training teams, much like the UTB and MLB Stan Teams, but geared more for training than evaluation. The teams would travel around and spend a week at different groups. When those training teams stopped, the districts were given the option to establish their own, but the program just faded out," said Michels.

BM1 Charles Harvey, a member of the UTB Standardization Team from RTC Yorktown, said he was impressed with the work of the OTT during the standardization team's April visit to the Group. "Group Moriches is the only Group I know of that has implemented this kind of program," he said. "If the OTT continues, it can have all procedures standardized, provided the members follow proper drill procedures. I also believe that having Group personnel involved has been key to the program's success so far."

Harvey said that he would recommend similar programs for other Groups if they can spare the personnel and the time required for a successful program. "I'm amazed when I go out to Groups and see such differences, not only between stations within a Group, but even between coxswains at a station," he said. "For example, one coxswain may know how to program a Loran unit and do a great job on navigation drills. Then the next coxswain we take out might be completely lost. That tells me the training program at the unit is definitely not standard."

"Group Moriches went the extra mile by sending a team member to Yorktown to pick the brains of the UTB Stan Team when they first started the OTT program," said CWO3 Richard Schmidt, Boat Crew Professionalism Coordinator and Search and Rescue Division's (G-NRS-2) liaison to the Standardization Teams. He agreed that other Groups could benefit from a program like Moriches' OTT. "Keep in mind that every station within a Group may not have the luxury of giving people up to participate. The program does cause some extra work," said Mr. Schmidt, who was Commanding Officer of Station Shinnecock when the program began in 1991. "The good thing that I have seen is, because of the in-depth selective process, the team members in Group Moriches' OTT are people that, if given the opportunity, can really take the ball and run with it. They are truly interested in improvements and have the support of the group command. Besides building camaraderie, the program has spread good values throughout the whole community." *o/s*

* * * *

1992 SAR Statistics Has Arrived!!!!

By: Sue Holden, G-NRS-1

Thanks to each of you who helped to make this the earliest publication ever. But guess what, we are going to do even better next year.

This year we included more historic information and a description of our program goals, measures of effectiveness and efficiency, and program trends. Any comments or ideas of items of interest that you would like to see included in next year's edition are welcomed. If a great photo comes across your desk, think of me. Last year we had a rough time getting action shots to make the pub a little more appealing. Please include a short description of the case, and if the photographer's name is available we will include it.

Don't forget if you are looking for SAR information, check the book first. If you can't answer a specific question, call me at 202-267-1089 or E-mail your request to S.Holden/G-NRS including your phone number so we can discuss your needs.

Thanks for making my job easier!!! *o/s*

ICSAR's Position on ELTs

By: Dan Lemon, G-NRS-3

At its April 14 meeting, the Interagency Committee on Search and Rescue (ICSAR), under chairmanship of RADM W. J. Ecker, adopted the policy paper below to help foster a national movement away from 121.5 MHz Emergency Locator Transmitters (ELTs). The member agencies of ICSAR are DOI, FCC, DOD, FEMA, NOAA, NASA and DOT.

BACKGROUND: Legislation enacted in 1974 required most U.S. fixed-wing aircraft to carry ELTs. ELTs are intended to activate in a crash. Providing a signal, alerting overflying aircraft of the crash location, who then pass the information along to search and rescue (SAR) authorities,

Two serious problems became evident: ELTs did not activate in crashes 75% of the time; and more than 97% of activations were false alarms. These unreliable ELTs, intended to save lives, are the main ELTs used 19 years later. They operate on 121.5 MHz, a frequency also used for other aviation purposes. ICSAR (responsible for the National SAR Plan) has strongly urged the FAA to require replacement of the old 121.5 MHz ELTs. A 1990 study for the FAA done by NASA shows that 25 more lives could have been saved annually if ELTs had worked.

Interference in the 121.5 MHz frequency band and limited satellite compatibility hurt detectability, position determination, provision of emergency information, SAR response time, and produce overwhelming false alert problems.

In 1982, the COSPAS-SARSAT system was developed to use improved 406 MHz ELTs with systematic satellite signal monitoring, detection, and relay. Standards for these ELTs were later developed.

The FAA allowed use of improved 121.5 MHz ELTs in 1985, and of 406 MHz satellite ELTs in 1992. Still, no regulatory action has been taken on replacement of nearly worthless models on which over 200,000 aviators still depend.

CURRENT SITUATION: ELTs are often needed for notification and location of downed aircraft. Many lives have been saved due to ELTs, but many have also been lost since old ELTs haven't worked 75% of the time. Even if old ELTs were replaced with perfect 121.5 MHz units, most of the daily alerts received would be false alerts from interference indistinguishable from ELT signals.

RESULTS: Death and prolonged suffering of survivors due to delayed SAR response; and strain and diversion of vital and costly SAR resources.

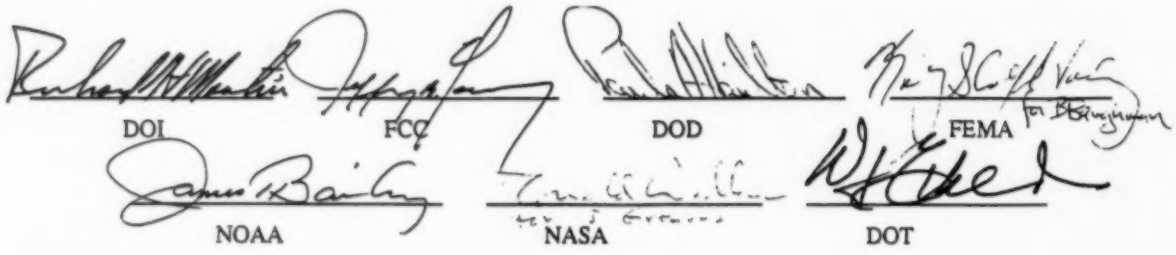
The maritime community is successfully switching to 406 MHz satellite beacons with homing signals, 406 MHz satellite ELTs, with the same proven maritime electronics and other features equivalent to those approved by the FAA for new 121.5 MHz ELTs, would also give dramatic improvements. When both the maritime and aviation communities switch to 406 MHz beacons, 121.5 MHz signal processing could be stopped, and 135 daily false alarms would disappear. With ELT coding and a protected frequency band, 406 MHz interference problems are negligible. With COSPAS-SARSAT compatibility, important emergency information is provided with alerts, and position determination and SAR response time are greatly improved.

RESULTS: 39 more lives saved annually; great reduction in suffering of survivors (many injured), false alert reduction of a least 95%, reduced risks to SAR responders, and annual savings of $7.1 million to public and private SAR providers.

COST/BENEFIT: Replacing ELTs in 203,000 aircraft were required to be equipped with improved 121.5 MHz units will cost aviators $81.2 million dollars vs $203 million for 406 MHz ELTs. The 121.8 million difference is an estimated short term average, which may decline with increased 406 MHz ELT production. The benefits of 406 MHz ELTs over the improved 121.5 units, based upon the above SAR savings and commonly accepted value of human life ($1 million), allows 406 MHz ELTs to pay for themselves in less than six years and taxpayers will be saved approximately $21 million per year thereafter.

The current situation is intolerable considering how long the problems have been known.

ICSAR POSITION: A complete transition must be made from current use of 121.5 MHz ELTs to use of only 406 MHz ELTs or equivalent.



"SafetyNet" for SAR

By: LT J. S. Ruvolo, PACAREA OPCEN

Though the U.S. Coast Guard has been using INMARSAT services for Search and Rescue (SAR) for some time, we began using "SafetyNet" for this vital mission only recently this past March. Currently, SafetyNet is used more for broadcast of navigational warnings and meteorological information in ocean areas than for SAR. However, the International Maritime Organization is urging countries to upgrade their SAR capabilities and offer SafetyNet so that ships equipped only with the new SOLAS communications equipment will be able to receive this vital safety information and possibly respond to SAR distress alerts.

Coast Guard Rescue Coordination Centers (RCCs) are responsible for maritime and aeronautical ocean SAR for the United States. Our RCC's are now broadcasting SafetyNet SAR alerts and information to ships in both the Atlantic and Pacific ocean areas.

Any country, regardless of whether it has an INMARSAT Coast Earth Station or not, can now use SafetyNet for SAR by routing the SAR information to countries having Coast Earth Stations. An example would be when South American countries send SafetyNet broadcast messages through COMSAT's two Coast Earth Stations here in the United States, namely Santa Paula, CA and Southbury, CT. Getting various SAR authorities to coordinate with each other is a major hurdle for SafetyNet implementation. SAR authorities must be willing to work with other authorities, foreign and domestic, with SafetyNet coordinators, and with the Coast Earth Stations themselves.

One significant difficulty for SAR SafetyNet implementation is that the 16 Marine Safety Information (MSI) areas established for SafetyNet are not aligned with the many ocean SAR regions for which nations have accepted responsibility. Accounting for this difference is that the MSI areas were established using criteria of satellite coverage and selection of MSI coordinators. On the other hand, SAR regions are much smaller, more numerous, and involve coordination and deployment of a wide variety of SAR services and rescue units...Not just communications.

Another SAR region concept that is at odds with aligning SAR regions with MSI areas is the difference in alignment between international maritime and aeronautical SAR regions. Aeronautical SAR regions are normally established to match the large flight information regions for air traffic control. Attempting to match the Maritime SAR regions with the Aeronautical regions would lead to areas too large to adequately coordinate maritime resource response.

The best way to use SafetyNet for SAR is for authorities to coordinate with one or two MSI area coordinators for release of SAR broadcasts. Such broadcasts may cover part of a MSI area, or parts of two adjacent MSI areas encompassing portions of several SAR regions. Typically though, SAR broadcasts are aimed to cover all ships within a certain radius of a specified or last known position, with a specified number of repetitions to ensure receipt by all ships operating in the area.

The main SAR function of SafetyNet is to relay ship-to-shore distress alerts received by the RCCs, along with assistance reporting instructions, back out to the ships operating in the vicinity of the reported distress. Receipt of distress information by the RCC's comes in many forms. Whether it is received over 2182 KHz by COSPAS or SARSAT emergency locator beacon alerts, flare sightings, INMARSAT, or telephonically, distress information must be relayed back out to the fleet and SafetyNet appears to fit the bill.

A typical broadcast might read something like this;

"An emergency beacon signal has been received in position xx-xxN xxx-xxW on 243 KHz All mariners are requested to keep a sharp lookout, assist if necessary and contact U.S. Coast Guard Seattle with reports of any sightings or assistance rendered. Telephone: (206) 553-5886. Signed U.S. Coast Guard." This was an actual broadcast about a month and a half ago and no offense to the lone Navy representative, very likely involved a U.S. Navy ship. Reason is that not only was a Navy ship the only known vessel operating in the vicinity of the beacon alert, but the beacon signal ceased very soon after

interrogating the ship and the start of the SafetyNet broadcast. These types of SARSAT emergencies occur quite often and with the assistance of the SafetyNet broadcast these cases can be made easier to solve.

Depending on the credibility and urgency of the alerting information, the Coast Guard may also need to request a ship divert to investigate and assist where possible. This is where the Coast Guard's Automated Mutual Assistance Vessel Rescue system, known as AMVER, is used to identify merchant vessels. That are best suited to respond, and are in the best position for potential use in SAR. Although the Coast Guard does not utilize SafetyNet to communicate with any single ship, the broadcast is still used to alert other nearby vessels of the situation. If no AMVER participating vessels are suitably positioned or equipped to respond. An all ships SafetyNet broadcast could then be used to solicit assistance and notify other vessels of the distress.

The Coast Guard realizes the great cost implications of a ship's diversion for SAR and the decision to do so is not taken lightly. It is up to the Coast Guard RCC's to weigh all the available information, deciding between whether lives are in danger against the possibility of a false alarm, before deciding whether to request diversion of merchant shipping for SAR.

In conclusion, the biggest obstacle in implementing SafetyNet for SAR seems to be a lack of awareness by SAR authorities worldwide of the system's capability, availability, and training in its use. Today, we in the Coast Guard are faced with the training phase within our own organization and with raising international awareness through International Maritime Organization initiatives and international SAR seminars. We feel that SafetyNet is a reliable and economical way to help save lives and property at sea. The precise control or aiming afforded in selecting recipients, the alarm provisions aboard ships for incoming urgent and distress calls, and the high system reliability all contribute in making SafetyNet a premier lifesaving tool. *o/s*

* * * *

A Finished Product

The New 41' UTB Operator's Handbook has reached the field. COMDTINST M16114.2B dated 11 May 93 is a major revision. G-NRS strongly urges you to take some time and read through the handbook taking note of the subtle and not so subtle changes which have been implemented. When any errors or omissions are found, we would like you to complete and return the publication review cards, found in the back of the handbook. *o/s*

Why Do Items From SCCB Cost More Than Off The Shelf Items?

By: LT W. Driver, (G-NRS-2)

A recent casualty, on a 41' UTB, required the replacement of the battery charger. This charger is managed by Defense General Supply Center, Richmond, Va. At the time of the casualty, none were in stock. Upon the initial inquiry to the manufacturer, the customer service rep did not recognize the part number as a battery charger the company built or sold. During the conversation it seemed that P/N A46-40-24V would be a suitable replacement charger at a cost of $927.50.

The 41 UTB BOSS manual states the battery charger is P/N A46-40-24V-12L-10B-107-060-04E. Would this substitute charger, P/N A46-40-24V be a problem?

After a little more investigation it seems that all the numbers after the A46-40-24V have meaning, and replacing the charger with a lesser quality could cause a problem. The following decodes the rest of the stock number:

12L Stands for 12 cells of lead acid battery
10B A CG approval number code
107 A code for DC surge protection
060 An AC pilot light code
04E Is for a timer

The cost of this charger is $1250.73 that's a difference of $323.23.

Assuming the lesser quality charger was purchased, we would have installed a charger that has no CG approval, no DC surge protection, no AC pilot light and no timer. We would of saved the CG $323.23 for the substitute, or would we? Would the substitute have lasted, and is it safe for our use in a 41' UTB? Probably not and definitely NO!

What's the moral of the story? "Don't assume anything!" When talking to a customer service rep who may not understand where this equipment is going, take the extra time to ask questions, especially when things don't quite add up. Provide as much information as you can and most of all, be patient. I realize it's hard to be patient when you're trying to get your B-0 resource backup, but remember Haste Makes Waste!! The safety of your crew and overall unit readiness could be at risk. ***ots***

Editor's Note: This information was taken from an E-Mail from MKC Guild of Group Long Island Sound. It was his inquiry and determination that resulted in this article.

More on the Facilities Management Information System

By: LCDR Steven White, G-NRS-1

In the last issue of *On Scene*, ENS St. John provided an excellent recap of the third annual Coast Guard Boat Managers Quality Workshop (Issue 1/93, p15). I agree, it was an excellent workshop and I was pleased to be a part of it. As a workshop leader, my small part involved the introduction of the Facilities Management Information System (FMIS) and several Headquarters efforts to increase the data contained within the system. In reading ENS St. John's recap, there seemed to be some uncertainty about what FMIS does for the Coast Guard, and more importantly, the individual Boat Managers in the field. Please read-on team.... The answers to the following questions may help to explain just what FMIS is all about.

What is the Facilities Management Information System?

Simply stated, FMIS is a computer-based system designed to provide easy access to information about facilities (i.e., Cutters, Aircraft, Boats, OPFACS). Its development is a cooperative effort between several offices in Headquarters (primarily the Office of Law Enforcement and Defense Operations (G-O) and the Office of Navigation Safety and Waterway Services (G-N)).

What problem does it solve?

FMIS addresses the chronic (and colossal) problem of incomplete information about Coast Guard facilities. Many facility managers across the CG capture and maintain their own facility data using tools such as multiplan, OFIS spreadsheet, document designer and perhaps even a green book or two? Depending upon where you look or who you call, you can obtain several different views about facilities across the CG. The bottom line is decision makers and other important individuals will always ask for parts or even the entire facility picture (In our case, Congressional Staffs and the DOT-IG requested a view of our world of small boats.) Without a system like FMIS, each Boat Manager typically received a phone call from Headquarters for a readout from their individual data bases. After many hours or perhaps even days effort, the information was insufficient to assemble an accurate picture (with high confidence) of our small boat universe. FMIS also addresses the problem of data standardization and the way we name and describe facilities, their equipments and components.

What's in it?

To keep things simple, FMIS captures and organizes data about cutters, aircraft and boats. For cutters, FMIS allows users to view information pertaining to cutters by Class, Hull Number, or Equipment. Similarly, aircraft information is available by Type, Tail Number, or Equipment and specifications by individual Aircraft or Aircraft Type. Lastly, boat information is also available by Boat Type and Hull Number and specifications by individual Boat or Boat Type.

Who uses it?

At the present time, the system is used by several offices in Headquarters (G-NRS, G-NSR, G-NIO, G-OP, G-OAV, G-OCU, G-OLE). Near future plans include extending FMIS to the field (e.g., Area, District Offices and Air Stations by summer '94).

What's the benefit?

o FMIS combines all facility data, CG wide, for the best single view of CG facilities.

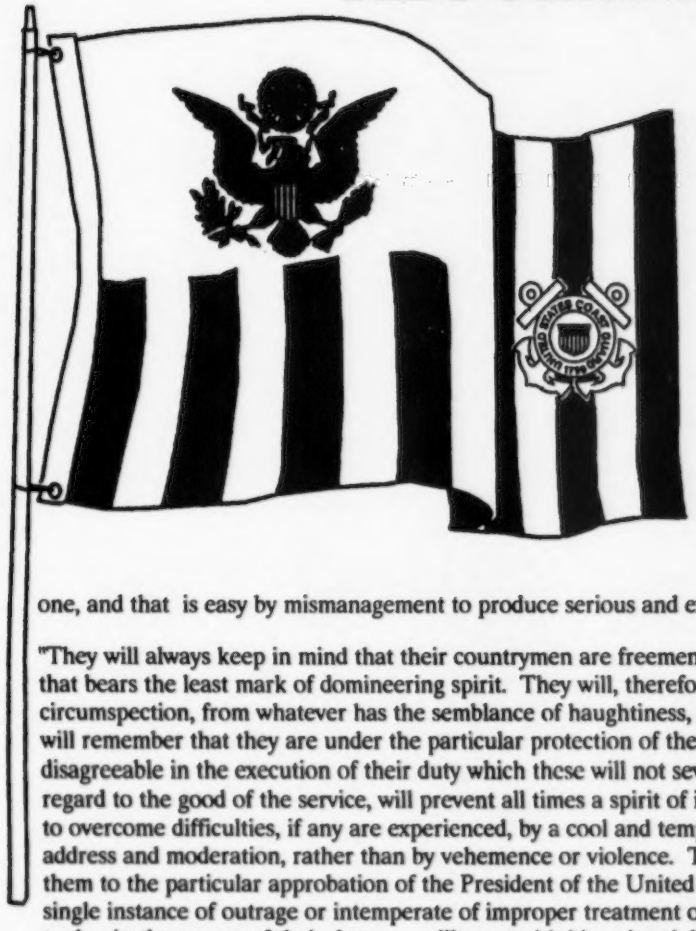
o FMIS is cross-program functional - minimum data redundancy and we can view data contributions by other programs.

o With FMIS, we're on-line and looking at the same data!

o There're no restrictions on the data. Authorized users may view any specific data....

o FMIS is centralized for easy maintenance and updating. **(Continued on P. 38)**

ALEXANDER HAMILTON'S FIRST LETTER OF REGULATIONS



The boarding officers, in carrying out their duties, should be mindful of Secretary of The Treasury Alexander Hamilton's directions in his first letter of "Regulations" for the Revenue Cutter Service in 1790:

"While I recommend in the strongest terms to the respective officers, activity, vigilance, and firmness, I feel no less solicitude that their deportment may be marked with prudence, moderation and good temper. Upon these last qualities, not less than the former, must depend the success, usefulness and consequently continuance of the establishment in which they are included. They cannot be insensible that there are some prepossession against it, that the charge with which they are entrusted is a delicate one, and that is easy by mismanagement to produce serious and extensive clamour, disgust, and alarm."

"They will always keep in mind that their countrymen are freemen, and as such, are impatient of everything that bears the least mark of domineering spirit. They will, therefore, refrain, with the most guarded circumspection, from whatever has the semblance of haughtiness, rudeness, or insult. If obstacles occur, they will remember that they are under the particular protection of the laws and that they can meet with nothing disagreeable in the execution of their duty which these will not severely reprehend. This reflection, and a regard to the good of the service, will prevent all times a spirit of irritation or resentment. They will endeavor to overcome difficulties, if any are experienced, by a cool and temperate perseverance in their duty -- by address and moderation, rather than by vehemence or violence. The former style of conduct will recommend them to the particular approbation of the President of the United States, while the reverse of it -- even a single instance of outrage or intemperate of improper treatment of any person with whom they have anything to do , in the course of their duty, -- will meet with his pointed displeasure, and will be attended with correspondent consequences."

" The foregoing observations are not dictated by any doubt of the prudence of any of those to whom they are addressed. These have been selected with so careful an attention to character, as to afford the strongest assurance, that their conduct will be that of good officers and good citizens. But, in an affair so delicate and important, it has been judged most advisable to listen to the suggestions of caution rather than of confidence, and to put all concerned on their guard against those sallies to which even good and prudent men are occasionally subject. It is not doubted that the instruction will be received as it ought to be, and will have its due effect. And that all may be apprized of what is expected you will communicate this part of your orders, particularly, to all your officers, and you will communicate this part of your orders, particularly, to all your officers , and you will inculcate upon your men a correspondent disposition." *o/s*

(Continued from P. 3 "Ready for Heavy Weather")

Not only is unsecured gear, flying around during a roll over or knockdown, dangerous to personnel and machinery, but the shifting of weight from these flying objects will disrupt the stability of the boat and may delay or in extreme cases prevent the rerighting -of the lifeboat. How long can YOU hold your breath underwater?

Enough said! The questions to ask yourself are: "Is my boat ready for heavy weather?" and "Do I care enough about the safety of my crew and the people who expect us to be there when it hits the fan, to insure that my boats are READY FOR HEAVY WEATHER?" The reward for the correct answers to these questions is... OPERATIONAL READINESS. Remember... SEMPER PARATUS is not just a saying, it's an attitude! *o/s*

(Continued from P. 13 "Lessons Learned")

The National Motor Lifeboat School teaches these same concepts to coxswains. They are taught that if there are more than two factors with respect to a distressed vessel's situation that are beyond the control of the coxswain, he/she must first be concerned about rescuing the people. And the weather is always a factor beyond the coxswain's control. *o/s*

* * * *

(Continued from P. 36 "More on FMIS")

o FMIS promotes a common language for effective communications about facilities.

o FMIS allows printing of customized reports at local printers.

What's the current status?

Since the wrapup of the Boat Managers Quality Workshop in March, one area office and seven districts have contributed excellent boat data to the FMIS data base. We're still hoping to get data from the remaining team members (I won't call out names gang). The system is healthy and working just fine. Also, we're well on our way toward developing the means whereby field access to FMIS is possible via one of the standard communications packages available in the CGSWII software suite.

Where does FMIS go from here?

FMIS is on-line, offers a lot, promises even more and is designed with flexibility to expand. There are a number of initiatives we're currently working. They include (not limited to): electronic AOPS Reports, ad hoc query and report generation capability and increasing the quantity and quality of the data bases. Other longer term initiatives include expanding FMIS to include other useful data bases such as; DAFIS, PAL and SORTS/CASREP (all not currently on-line in FMIS).

Wrapup...

FMIS is not "just another Headquarters stovepipe system" thrusted upon you. It's beneficial and returns value to field users, as well as headquarters. With your help, we can develop it to be a success story and a model for cross-functional information systems in the Coast Guard. My sincere thanks to the Boat Managers who managed to find time slices to prepare and turn-in their data diskettes. Also, I extend my sincere thanks to Boat Managers who continue to find small time slices to work on their boat data diskettes - in addition to their heavy workloads and busy schedules. *o/s*

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